VE Series Printer

Operation Manual

600T000XX

(Primary Edition)

Version 1.0

Oct. 10, 2012

Preface

Thank you very much for purchasing VE series wide format printer.

- In order to use this printer correctly and safely and understand this product's capability, please read this manual carefully.
- The manual includes equipment structure, Description, technical parameters, operation manual, safety information and application of software, etc.
- This manual is subject to change without notice.
- Contents here in contained are believed to be correct, however, please contact us if you find any error or something not clear enough.

To ensure safe and correct use

- To ensure the safe and correct use of your printer, read this manual thoroughly prior to use.
- After reading this manual, store it in a safe place for reference as necessary.
- Do not allow small children to touch the printer.
- The following describes are important points for safe operation. Be sure to observe them strictly.

Conventions used in this manual

To ensure the safe and correct use of the printer as well as to prevent human injury and property damage, the safety precautions provided in this manual are ranked in the three categories described below. Be sure to gain a full understanding of the difference between each of the categories before reading the Manual.

DANGER This category provides information that, if ignored, is highly likely to cause fatal or serious injury to the operator.

WARNING This category provides information that, if ignored, is likely to cause fatal or serious injury to the operator.

CAUTION This category provides information that, if ignored, could cause injury to the operator or damage to the printer.

Description of safety symbols

The symbol indicates information that requires careful attention (including warnings).

The symbol indicates an action that is prohibited.

The symbol indicates an action that must be performed.

Safety precautions

To ensure the safe and correct use of your printer, be sure to observe the following points.

Installation precautions

⚠ WARNING

Do not install the printer in the vicinity of volatile solvents such as alcohol or thinner。

- A volatile solvent coming into contact with any of internal electrical components may result in a fire hazard or electric shock.

Do not place objects such as those listed below on top of the printer.

- Objects such as these coming into contact with any of internal electrical components may result in a fire hazard or electric shock..
  ·Metallic objects such as necklaces.
  ·Objects such as glasses, vases, houseplants, etc. that contain water or other fluids.

⚠ CAUTION

Do not use the printer in an unstable location such as on a slope or a location that is subject to a lot of vibration.

- Such locations may cause the printer to tip over and cause injuries.

Do not place heavy objects on top of the printer.

- Such objects may tip over or fall off, causing injuries.

If the printer is mounted on its dedicated stand, be sure to use the caster stoppers to fix the stand in place and prevent it from moving while the printer is being used

- If the stand is not fixed in place, the printer may tip over and cause injuries.

Avoid using the printer in the following locations.

- Use in such locations may result in a fire hazard or electric shock.
  ·Excessively humid or dusty locations.
  ·Locations exposed to direct sunlight.
  ·Locations exposed to high temperatures.
  ·Locations near flames or moisture.
- Use at the following places may result in malfunction or failure.
  ·Near equipment which generate a strong magnetic force or magnetic field.
- Use this printer in places where the ambient temperature is between 20 to 28°C centigrade and humidity is between 40 to 70%.

Leave plenty of space around the printer.

- Leave sufficient space for operations around the printer.(rear and front about 2 meters, left and right about 3 meters)

Power supply precautions

⚠ WARNING

Do not damage the power cable, or modify it in any way. Moreover, do not place heavy objects on the power cable, pull on the cable, or bend it excessively.

- There may be current leakage from the damaged parts, resulting in a fire hazard or electric shock.
- Do not unplug or plug in the power cable when your hands are wet, such action may result in electric shock.

Do not connect multiple devices to the same power outlet.

- Use of the printer in such a condition may result in a fire hazard or short circuit.

Do not bundle or tie-wrap the power cable.

- Use of a bundled power cable may result in a fire hazard or short circuit.

Make sure that the power cable is firmly inserted into the power outlet.

- Use of a power cable when the plug is not completely inserted into the power outlet may result in a fire hazard or short circuit.

Do not use a power cable other than the one supplied with your printer.

- Use of a different power cable may result in a fire hazard or short circuit.

Be careful of the following when connecting a ground wire.

- Items which allow connection to a ground wire
  - · Ground terminals of electric outlets
  - · Ground terminals after completion of grounding work (type D)
- Items which do not allow connection to a ground wire
  - • Water pipes
    Water pipes may have plastic parts in the middle which do not serve as grounding.
    It is possible to connect a ground wire to water pipes which are approved by the waterworks department to use for grounding.
  - • Ground terminals for telephone lines and lightning conductors
    These may get a high-voltage current from lightning which may cause fires or short circuit.

⚠ CAUTION

Use an appropriate power source and voltage for the specifications of this printer.

- Using this printer with a power source and voltage which are not compatible with the specifications may result in a fire or an short circuit.

When disconnecting the power cable, be sure to hold on to the plug, and not pull on the cable itself.

As a general rule, do not use additional power cables.

- If you use additional cable, please make sure that total amperage of the equipment connecting with cable shall not exceed the amperage of the power supply. Moreover, the amperage of all equipment connecting with wall socket does not exceed the amperage of the wall socket.

Make sure that the power plug can be readily unplugged at any time, and that there are no objects placed in its vicinity.

Be sure to ground the earth terminal.

Avoid the socket in the same circuit with copy machine or air conditioner.

Avoid using the socket controlled by the wall switch or by automatic timer.

Put your computer system away from potential sources of electromagnetic interference.

- Such as reproducers and cordless telephones.

Do not use damaged or attrited power cable.

Handling precautions

⚠ WARNING

Do not disassemble or modify printer.

If the printer makes an unusual noise, generates smoke, overheats, emits a strange odor, or otherwise functions abnormally, immediately turn off the power, remove the plug from the power outlet, and either contact the store where you purchased your printer or your nearest Graphtec representative.

Do not use flammable aerosols or similar products in the vicinity of the printer.

Before moving the printer, make sure that the power switch is in the “off" position and that the power plug has been removed from the power outlet.

Use power switch to close your printer. If the power switch is in the “off” position, power will be cut off. Before cut off the power, do not pull out the printer plug and data lines.

Before moving the printer, make sure that the print heads are fixed on the original locations

Do not touch any metallic parts on the print heads after a printing operation.

- Printing malfunctions may occur.
- There is a risk of damage from static electricity.

⚠ CAUTION

Prevent metal objects or liquid contact to the internal electrical components, otherwise will result in a fire hazard or electric shock.

On the print procedure, prohibit putting hand to the printer.

Do not move the print heads by hand, otherwise will result in a damage.

Make sure that power cables be connected correctly.

In the face of the following situations, please cut off the power supply for the experienced maintenance staff to maintain:

- power cables or plug have be damaged;
- liquid splashing into the printer;
- printer fall down or damaged;
- Printer is not in normal operation or performance are changed obviously.

Maintenance and inspection precautions

⚠ WARNING

Be sure to turn off the power and remove the power plug from the power outlet before performing any cleaning operations.

- Failure to do so may result in a fire hazard or electric shock.

To clean the printer, use a cloth that has been dampened with neutral detergent and then well wrung out. Do not use volatile solvents such as alcohol, benzene or thinner to clean the printer.

Do not apply any lubricant to mechanical sections of this printer.

⚠ CAUTION

At least once a year, remove the power plug from the power outlet and clean the prongs and surrounding areas.

- A build-up of dust may result in a fire hazard.

When cleaning or checking the inside of the printer, make sure that a metallic object such as a necklace or bracelet does not come into contact with any of the internal components.

- Such actions may result in injuries or an electric shock.

Precaution on Handling the Consumable Items.

⚠ WARNING

Take care not to ingest ink or get it into your eyes.

- This may cause breathing difficulty or damage to your eyes.
- If ink gets into your eyes, immediately rinse with clear water, and consult a doctor.

If you ingest ink accidentally, do not try inducing vomiting; immediately consult a doctor.

Leakage ink may cause damage to the surface coating of this printer.

⚠CAUTION

As a safety precaution, store the print heads and ink cartridges in a location out of the reach of small children. If ink is licked or ingested accidentally, consult a doctor immediately.

Do not use any ink other than those specified because it may not only disturb printing quality, but also cause a malfunction which will prevent appropriate maintenance procedures.

Do not use ink after the expiration date because it may cause a malfunction.

Please comply with relative applicable rules to dispose waste ink.

Take care not to get ink on your skin or clothing. If ink gets on your skin, immediately rinse it off by using soap and water.

Periodically check the amount of the waste ink in waste ink bottles to avoid an overflow.

Store ink in a dark cold place. Never store it at locations exposed to high temperatures or direct sunlight. This may affect its performance.

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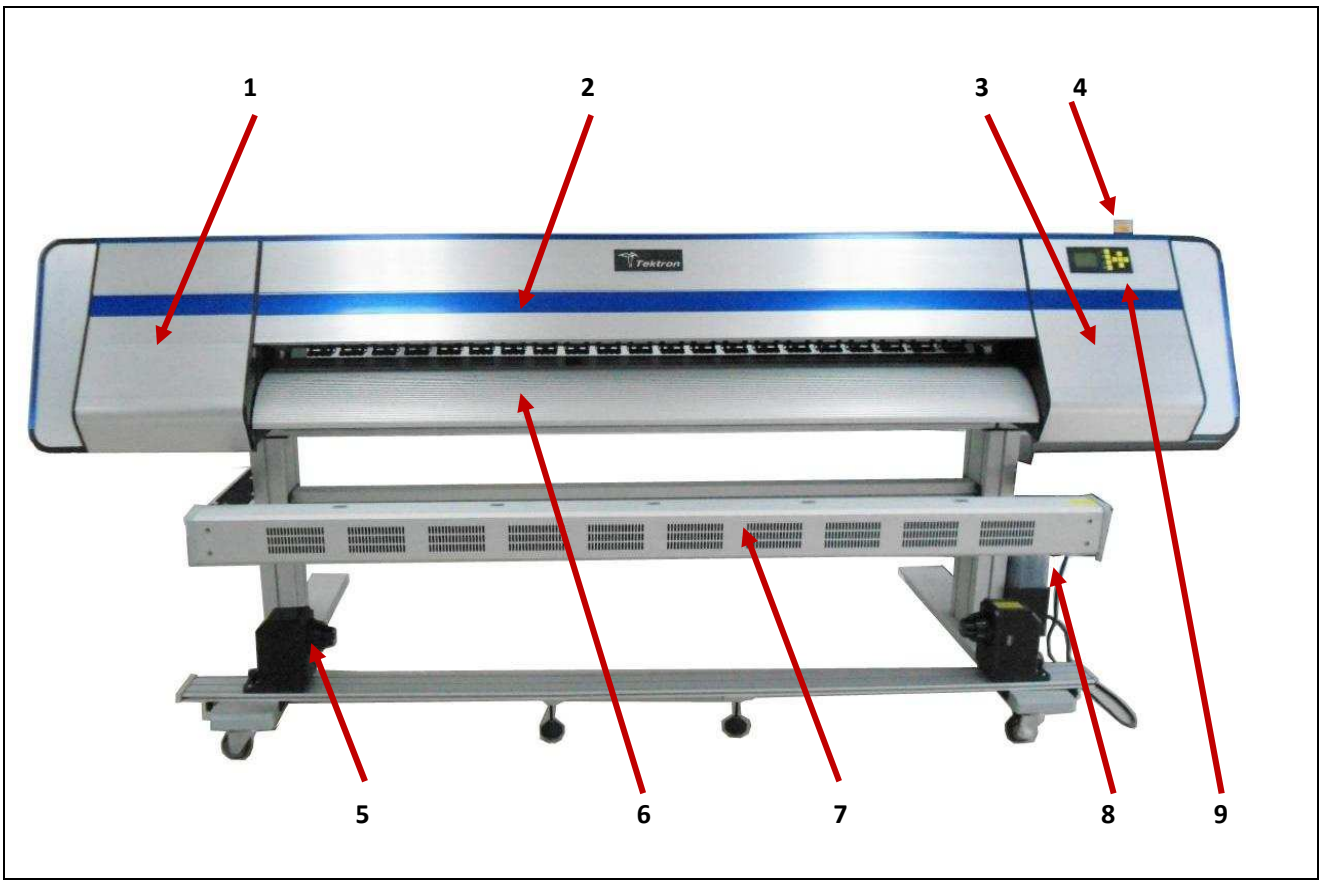
Chapter 1 Introduction

1.1 Technical Parameters

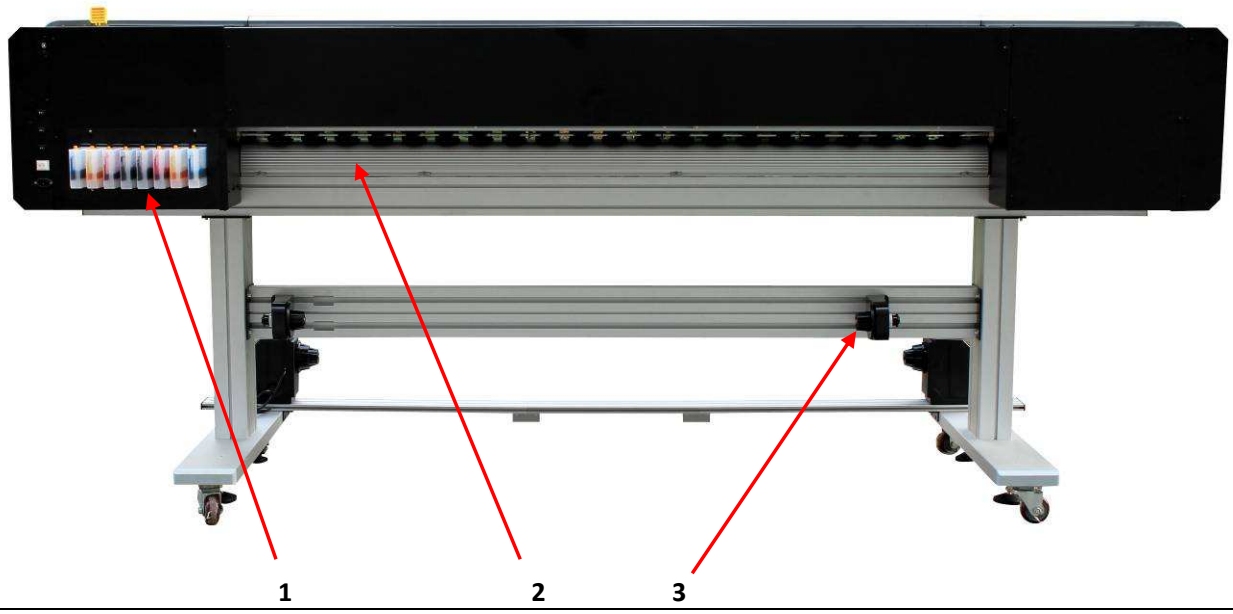
Model	VE Series: VE1801/1802; VE2601/2602			
Print-Head Type & Qty	EPSON DX5 1 / or 2 pieces			
Printing Width	1800 mm / 2600mm			
Resolution	720DPI / 1080DPI / 1440DPI			
Drops	Fixed dot or variable dot control			
Speed	1 Head		2 Head	
	3PASS	19 m^2/h	3 PASS	38 m^2/h
	4PASS	15 m^2/h	4 PASS	30 m^2/h
	6PASS	10 m^2/h	6 PASS	20 m^2/h
	8PASS	7.6 m^2/h	8 PASS	15 m^2/h
Ink Type	Water Base Dye Ink; Water Base Pigment Ink; Eco Solvent Dye Ink			
Colors	4 color: CMYK; 8 color optional			
Ink Supply	Ink Cartridge. Optional CISS			
Ink Capacity	Standard 220ml *2 * 4 color; Optional 220ml * 8 color			
Media Type	PP, Photo Paper, Lamp Pieces, PVC, Vinyl ,Mesh, Banner			
Media Release	Standard Passive Release. Optional Auto feeding & Take up			
Maximum Media Width	1900mm			
Maximum Media Wight	< 30kg			
Print-Head Height	1.5mm~3.0mm Adjustable			
Head Clean/Capping	Auto cleaning & Capping system			
Media Heater	Front & Real: Constant Temperature control. Printing Platen: Adjustable			
Media Drier	Standard: Fans Drier; Optional: Hot Air (PTC+Fans Array)			
Control Panel	9Key LCD Display Panel;			
Interface	USB2.0 (Window2000、NT、XP etc)			
RIP Software	Standard: MainTop RIP，Support third party RIP			
Operation System	(Window2000、NT、XP etc			
Power Supply	AC110 or 220V，50HZ/ 60HZ			
Operation Environment	Temperature：20°C ~ 28°C Humidity ： 40% ~ 70%			
Printer Size / Weight	Net: Gross:			

The Parameter might be varied without notice.

1.2 Components And Features

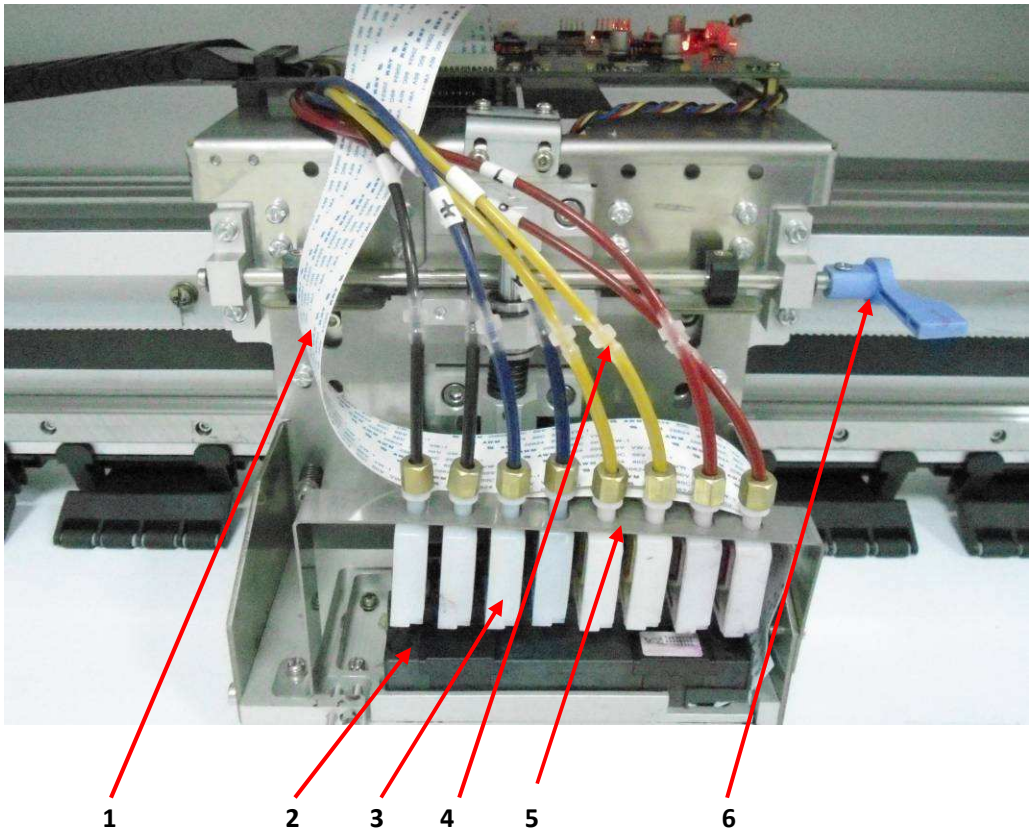


Item #	Description	Function
1	Left Cover	Open this cover when do head maintenance manually.
2	Front Cover	Open this cover to observe carriage movement and printing quality.
3	Right Cover	Open this cover to check head cleaning and capping station.
4	Press handle	To be used for releasing and loading media.
5	Media taking-up Holder	To holder the paper core for rewinding the media after printing.
6	Front Media Guide	This is the guide for media exiting and drying after printing.
7	Media Drier	This is used for drying media after printing.
8	Waste Ink Bottle	This is used for storing the waste ink coming from clean station.
9	Control Panel	This is the key panel for printer basic operation.

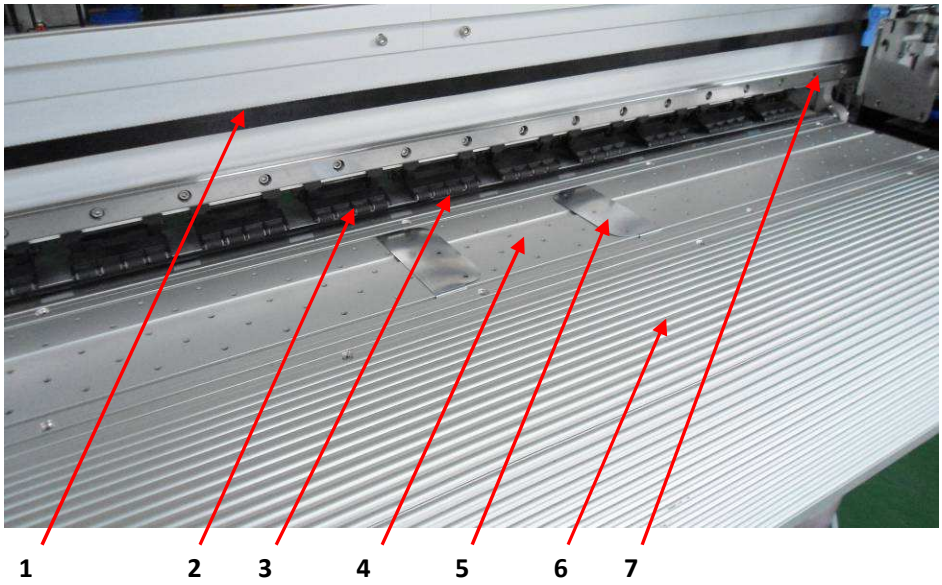


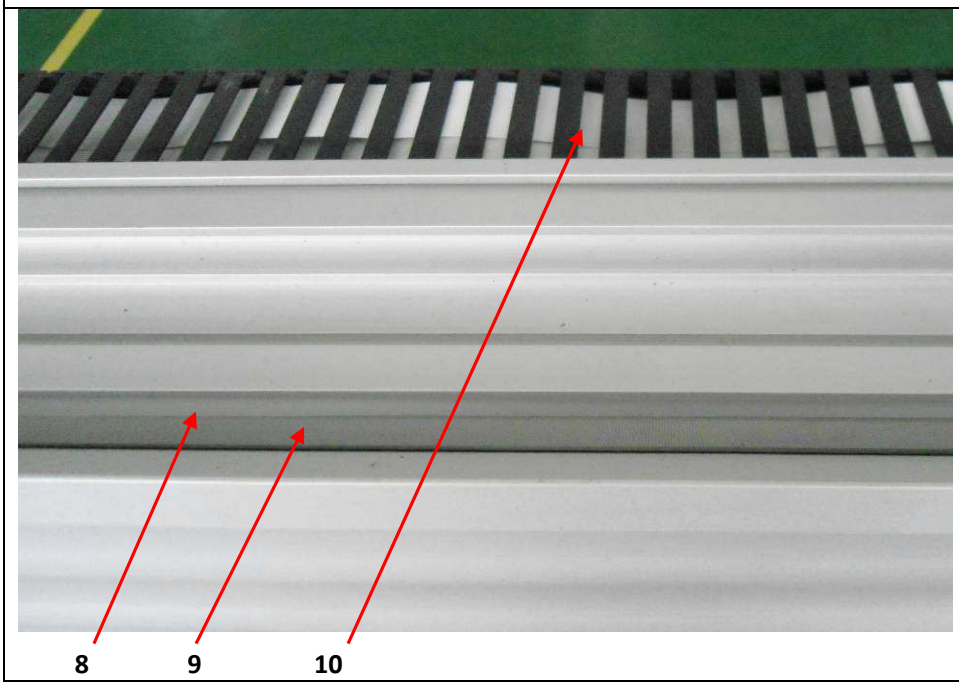
Item #	Description	Function
1	Ink Cartridge	This is the bulk ink storage for ink supplying.
2	Rear Media Guide	This is the guide for media feeding and pre-heating.
3	Media Release Holder	This is media holder for passive release.

Carriage

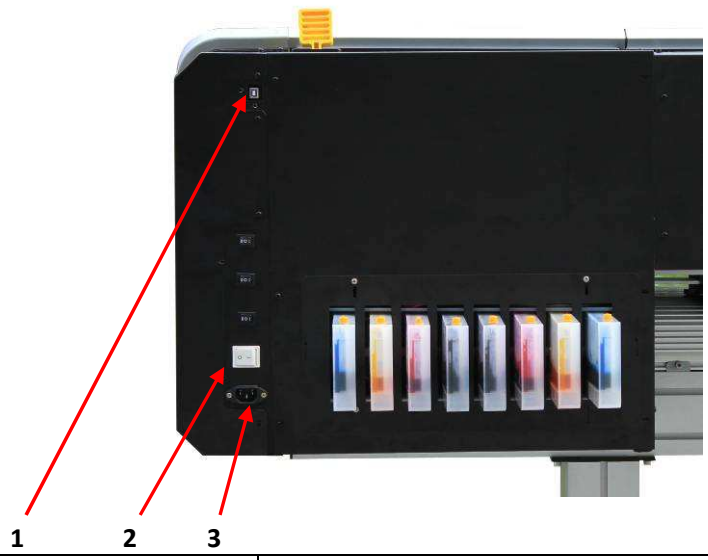


Item #	Description	Function
1	Print-head cable	This is the cable for connecting print-head drive board and print-head.
2	Print-Head	This is print-head (DX5)
3	Damper	This is a damper for ink storage and absorb the pressure fluctuation while carriage moving.
4	Ink Tube Connector	This is used to connect damper and ink tube.
5	Damper Holder	This is a clip to hold the damper and avoid it loose during carriage moving.
6	Head Height Adjust Handle	This is used to adjust the head height. There are 3 positions, each step is 0.5mm.





Item #	Description	Function
1	Syncro Timing Belt	This is the belt for driving the carriage moving.
2	Press Roll	This is the roller to press the media touching the pinch roll firmly.
3	Pinch Roll	This is pinch roll for driving the media moving.
4	Printing Platen	This is the plate for supporting the media while printing.
5	Media Edge Guide	This is the guide to prevent media edge rising and touch the head.
6	Front Media Guide	This is the guide for media exiting and drying out after printing.
7	Linear Rail	This is the guide for carriage movement.
8	Encoding Strip	This is used for jetted dots allocating in scan direction.
9	Encoding Strip Shield	This is a cover for protecting encoding strip.
10	Cable Chain	This is the chain for holding cables and ink tubes.



Item #	Description	Function
1	USB Port	This is used for connecting the cable for communication and data transfer between printer and PC.
2	Main Power Switch	This is main switch for turn on & off the printer
3	Power Cord Socket	This is the socket for supplying electrical power from the power source.

Chapter 2 Installation Guide

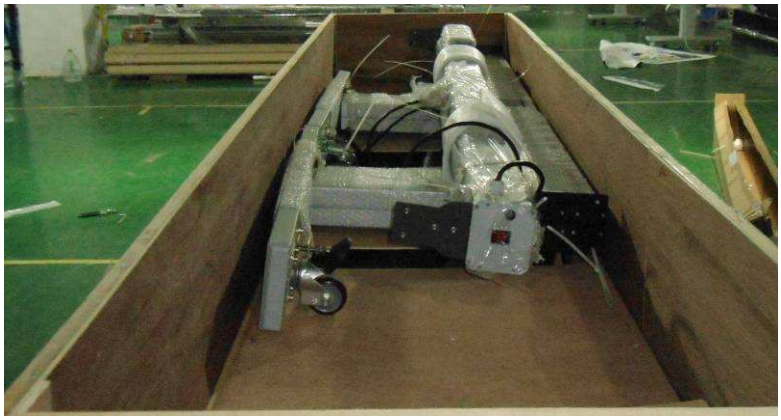
⚠CAUTION Read the safety guide more carefully before install the printer.

2.1 Open Package and Remove Printer

⚠DANGER Be careful while use fork-lift to remove printer from the packaging.

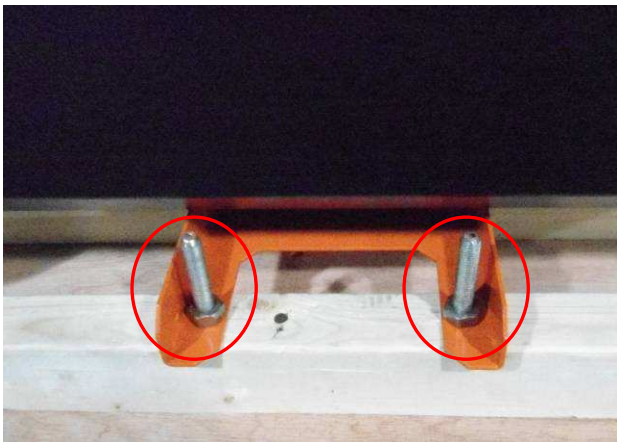
2.1.1 Open the wooden box

2.1.2 Remove the modules



2.1.3 Remove printer

Remove all side plate of wooden box, as the fig below:



Remove fixing screws on the pallet.

2.1.4 Remove 4 screw nuts, lift printer up .

Remove shipping bracket fixing screws, and remove Orange brackets.

2.2 check Packing List

Check the items on the list. Please contact seller if there is any thing missing.

Item	Description	Qty	Item	Description	Qty
1	RIP Software	1	2	Power Cord	1
Item	Description	Qty	Item	Description	Qty
3	USB Cable	1	4	Print Head Cable	2
5	Tier	10	6	Print Head	1
7	220ml Ink Cartridge	8	8	Waste Ink Tank Holder	1
9	Warranty Card	1	10	Quality Certificate	1

11	Operation Manual	1		12	Quick Start Instruction	1
13	Waste Ink Tank（5L）	1		14	Glove Pack	1
15	Injector	1		16	Funnel	4
17	Clean Stick	4				

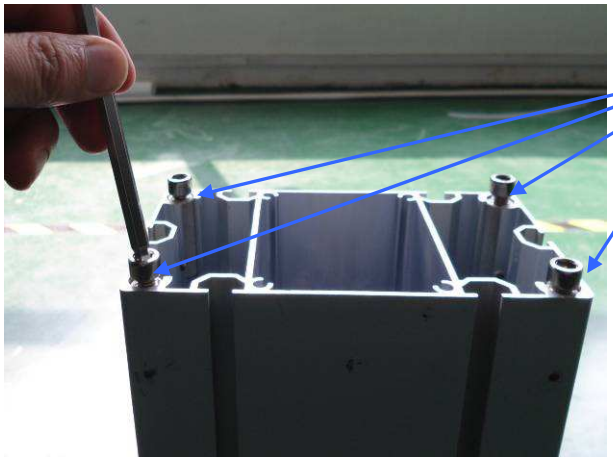
2.3 Install Printer

⚠WARNING

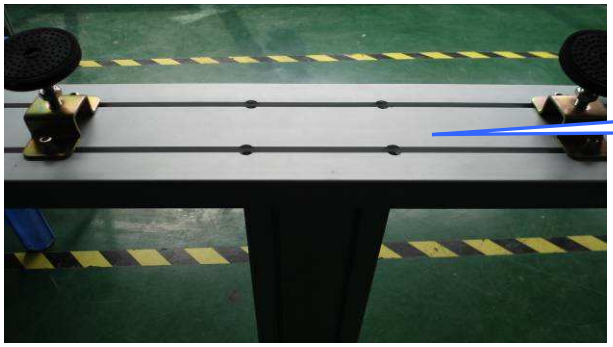
Two person required when install printer.

2.3.1 Install Leg Assembly

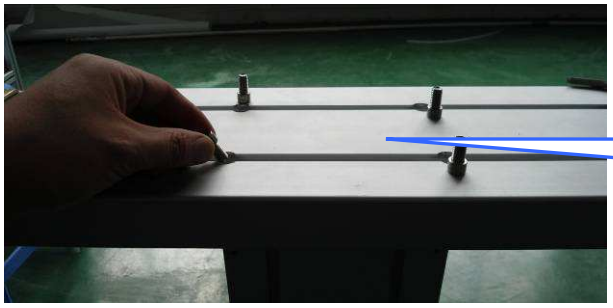
Take left leg parts from the packaging.



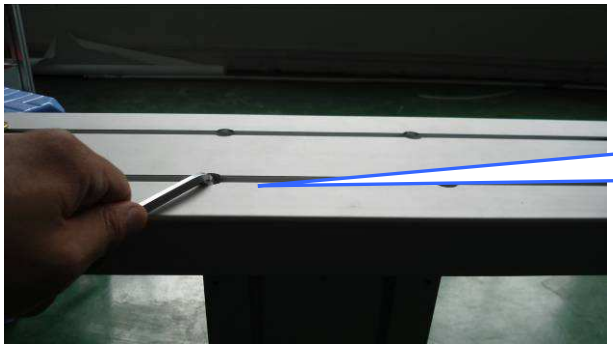
Remove 4pcs of M8X14 Hex screws from the end of pillar.



Put the leg on the pillar.



Fixing the leg and the pillar with the 4 screws removed.



Fasten the screws

Do the same way for another leg.

Take low support beam, insert the fixing screw on the end of beam into fixing hole on the legs.

Fixing the beam by 4 pcs of M6X16 Hex screws, see below fig:

Do the same for another side of leg.

2.3.2 Install Printer

Install the printer body on leg stand

Note: As the printer is heavy, please use fork-lift to left the printer. Or two persons to do the procedure is necessary.

With the help of fork-lift, put the printer on the stand and fix it by 4 pieces of M6X18 Hex screws in each side. Please be sure that the fixing screw on the top of the leg is inserted in to the fixing hole in low beam of printer. See the picture below.

2.4 Install Drier

⚠WARNING

Two people required while install the drier.

2.4.1 Install Drier Bracket

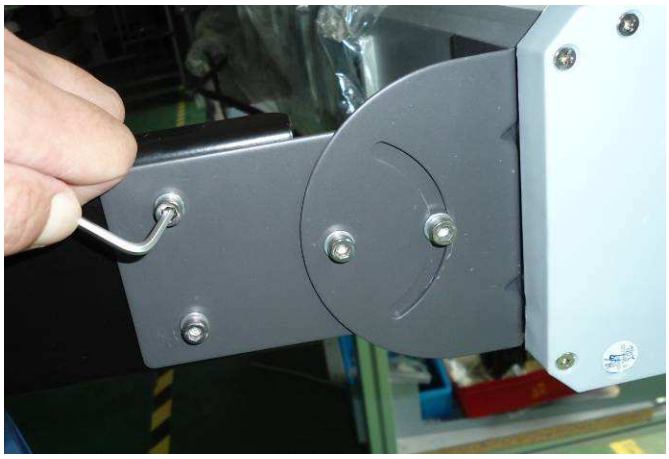
Take the bracket from the packaging. Remove 4pcs of M8X14 Hex screws from each side of leg stand.

Install the bracket. Make sure two brackets in both side are in the same level.

2.4.2 Install Drier Assembly

Remove two M5X12 Hex Screws in both side of drier.

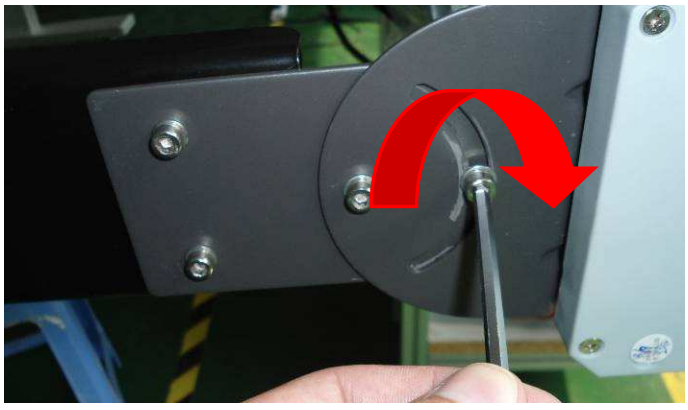
Install the drier on the bracket and fix it by two screws.



Do the same way for another side.

The hot air direction is adjustable as follow:

Use Hex screw driver to loose the fixing screw in both side, turn the drier to a certain angle, then fasten the screw.



Turn the drier to proper angle.

After installation.

2.5 Install Waste Ink Tank Holder

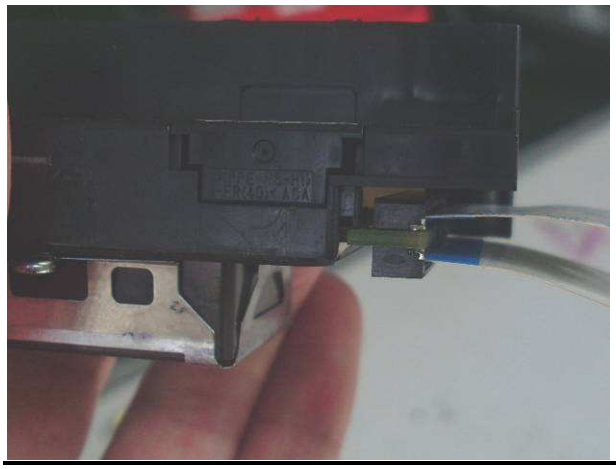
Take the waste ink tank holder and install it on right side of leg assembly. Remove two screws on the leg.

Push the holder down to the end and fix it by two M8X14 Hex screws.

Install waste ink tank holder on the right side leg. Fix it by 4 pcs of M6X16 Hex screws.

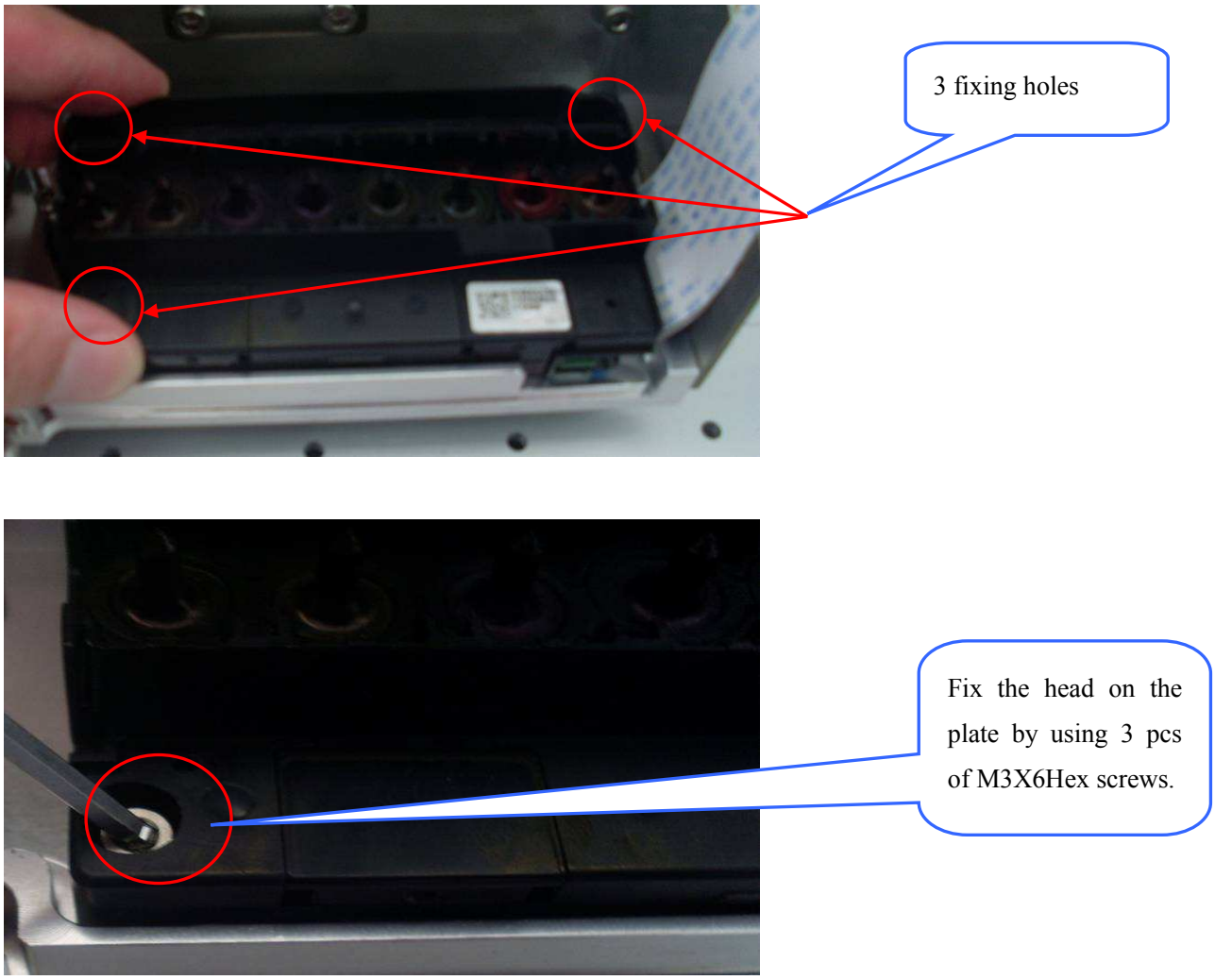
2.6 Install Print-Head

2.6.1 Connect flat cables to print head. Make sure the cable are in the right direction. See below fig.



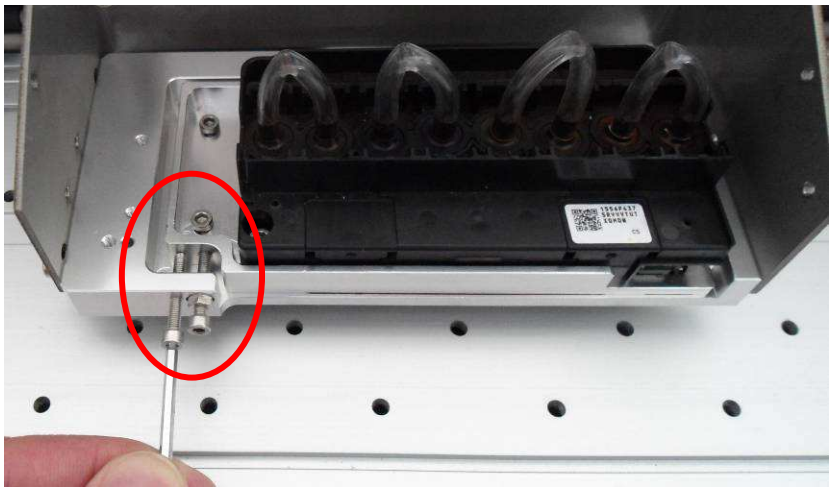
⚠CAUTION The blue color of two cables have to be faced each other. Recommend to use same width paper to cover the connector to avoid circuit short by sprayed ink

2.6.2 Use two M3X6 Hex screws to fix print head on holding plate. See the fig below



2.6.3 put the head assembly on the carriage and fix it by 3 pcs of M#X6 Hex screws on head plate.

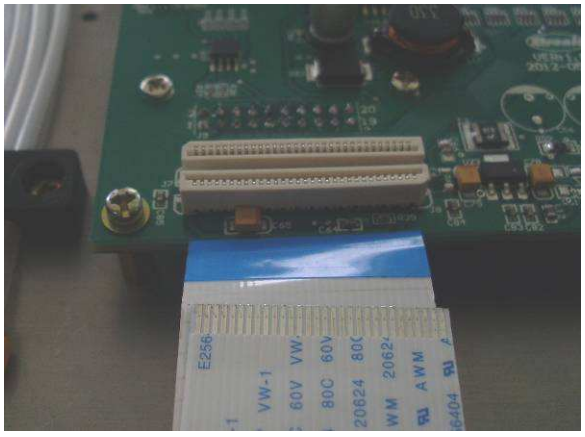
2.6.4 Install head adjustment screw

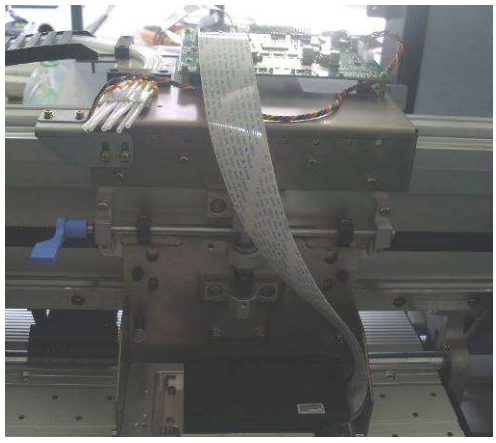


Note：The screws are used to adjust the straightness of the head.

Turn the left screws in to push the head turn in CW direction. Turn the right screws to pull the head turning in CCW direction.

2.6.5 Connect head cables to Pint-head drive board.





2.7 Ink Initializing

2.7.1 Insert 8 empty cartridges into the slots.

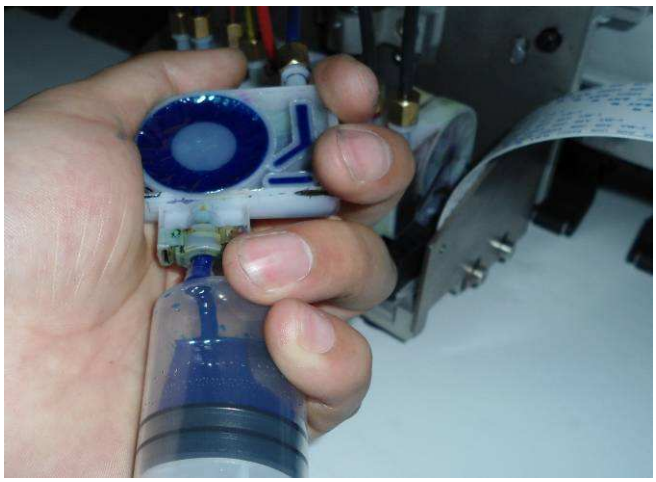
2.7.2 Remove rubber cap on each cartridge, fill the ink in to the cartridge by using funnel. Please make sure the ink color should be match with the marks on the cartridge.

Please be sure the ink level should be within the level limit lines on the cartridge.

Note: while the ink level is below the low limit line of the cartridge, the ink should be added on time otherwise the air could be gotten into the ink tube and cause ink supplying interrupted.

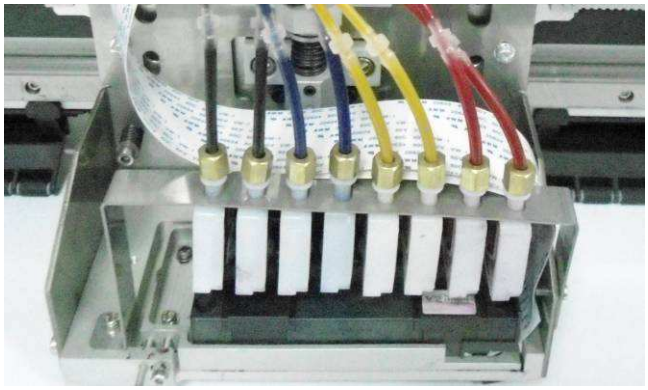
2.7.3 Connect the injector with the damper, draw the ink out from the cartridge into the damper.

Note: the ink level in the damper should be not less than 50%, otherwise it will cause ink interrupted during printing.

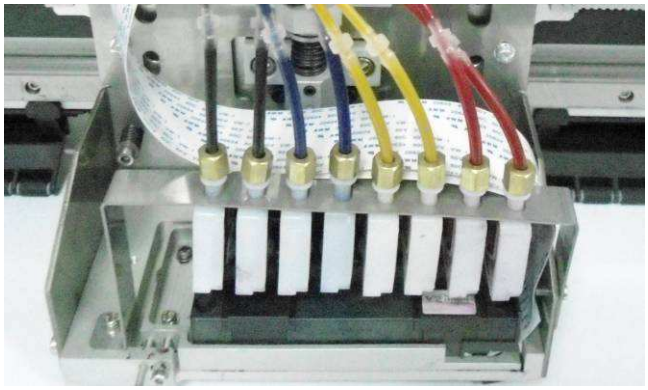


2.7.4 Connect each damper to individual ink inlet on print head

Note: please make sure the color order should be in correct: K,K,C,C,,Y,Y,M,M. from left to right.



2.7.5 Install and fix damper holder after all dampers are connected with the head correctly.



2.8 Turn On Printer

2.8.1 Choose correct power supply

1) Power supply required:

Printer： AC 220V/50Hz or AC 110V/60Hz; Heater： AC 220V/50Hz or AC 110V/60Hz ;

PC： as per the instruction on PC

The printer requires good grounding.

Please use correct power supply as per the requirement otherwise may damage the equipment.

2) Please remove any un-necessary remains in the printer before switch on power.

3) Connect printer and heater to power supply by two power cords.

2.8.2 Booting printer and self checking

Note: Please move the carriage and check the gap between the head and printing plate by manually. Make sure there is no substance on the platen. Make sure there is no problem for carriage move freely.

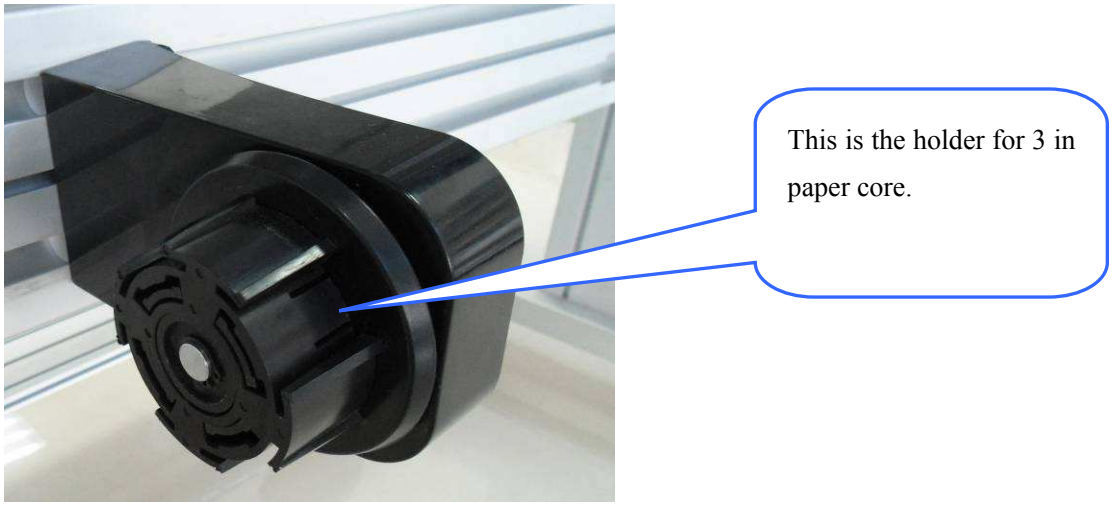
1）Turn on the machine by push main power switch. The printer starts self booting for checking the status of the machine. The carriage would move back to home position after checking.

2）The printer will be online after booting.

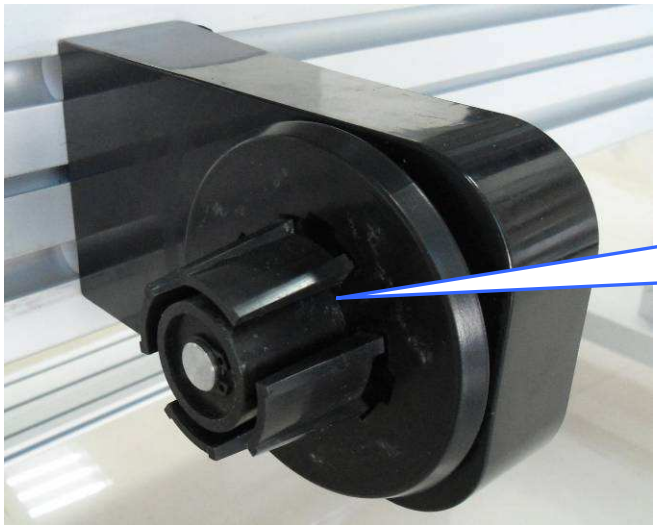
2.9 Load Media and Nozzle Checking

2.9.1 put the media on the holder and fix well.

Note: the holder can fit 3 inch paper core, or 2 inch paper core by removing the core adapter. see below:

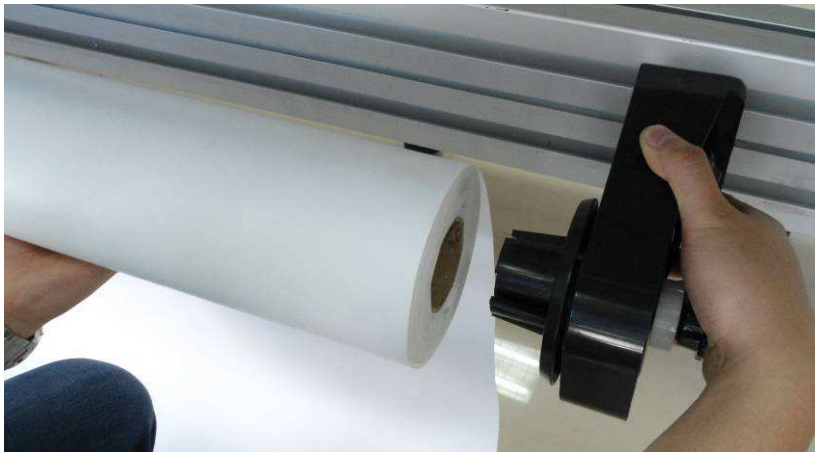


Push the clips in for position, remove 3 in core adaptor.



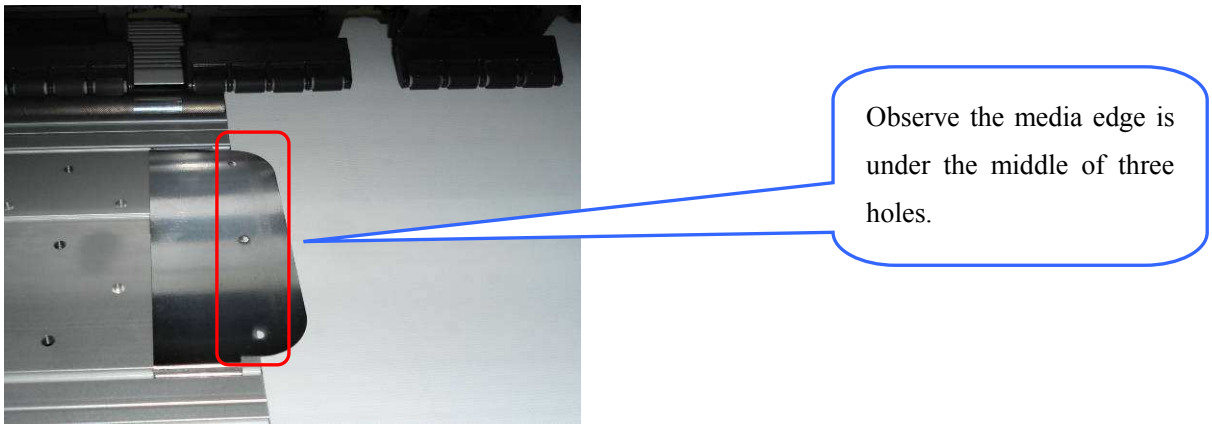
Now the holder will fit 2 in paper core.

Fix one side holder on low support beam, move anther holder to fit media core.



2.9.2 Lift press roller by push back Press Handle. Put the media going through press roller. Pull and smooth the media equably from the front of printer. Pull back the handle to release press roller.

2.9.3 Move media edge guide to cover the media edge in both side.



2.9.4 Head Initializing and nozzle checking

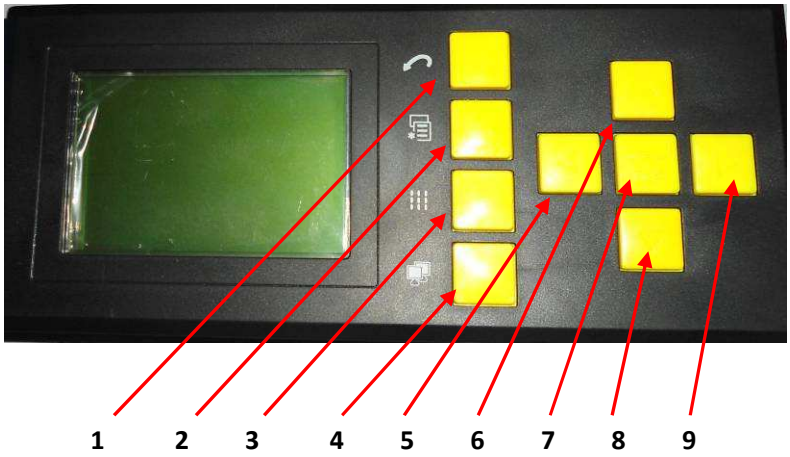
Enter head cleaning procedure, choose Standard, press OK. The ink is being sucked into the head and sucked out by vacuum. While the process completed, the display will back to Main Manu. Press Nozzle Check, the carriage will move left and a nozzle status bar will be printed. Observe each nozzle status, and do clean process again if necessary.

Note: if there still have some nozzles don't jetting well, please stop clean and do some printing for while, then do the clean process again.

While all process is done, the machine is ready to run for further adjustment and calibration. Please be noted that the first installation should be done by service engineer, or under the guide of service engineer.

Chapter 3 Control Panel & Parameter Setting

3.1 Control Panel



Item #	Description	Function
1	Exit	Press this button to cancel, Back to previous Manu.
2	Manu	Press this button to enter the main Manu
3	Nozzle Checking	Press this button to do nozzle checking print.
4	On Line	Press this button for linking the PC.
5	Left	Press this button for reduce the value, or move the carriage left toward.
6	Up	Press this button to go up on displayed Manu. Or move the media in backward.
7	OK	Press this bottom to confirm for next step
8	Down	Press this bottom for choose next item on the displayed Manu, or move the media forward.
9	Right	Press this button to increase the value, or move the carriage right forward.

3.2 Manu Tree

Main Manu

- 1：Media_Move
  - 1. Media_Move
  - 2. Margin_Set
  - 3. Media_Detect
- 2：Head_Clean
  - 1. Heavy_Mode
  - 2. Std_Mode
  - 3. Light_Mode
  - 4. Cap_Clean
  - 5. Capping
- 3：Param_Set
  - 1. Wiper_Pos
  - 2. Wiper_Cycle
  - 3. Carriage_Spd
  - 4. Vacuum_Adj
  - 5. Auto_Purge
  - 6. Auto_Clean
  - 7. Vacuum_Mode
- 4：System_Set
  - 1. Head_Qty
  - 2. LCD_Cntrst
  - 3. Language
  - 4. Media_Detect
  - 5. Cutter_Enab;
  - 6. Media_End
  - 7. Load_Default
  - 8. About...
- 5：Engr_Mode
  - 1. Motion_Test
  - 2. Speed
  - 3. Print_Width
  - 4. PurgePosition
  - 5. Voltage_Adj

3.3 Manu Description

Main Manu	Next Manu	Description
Media_Move	Media_Move	Lighten this item by using Up or Down key, press OK to confirm. Press Down Key the media will move forward, press Down Key again, the media moving stops. Press Up Key, the media moves backward, press again the moving stops. Press Left Key, the carriage moves leftward. Press Left Key again, the carriage moving stops. Press Right Key, the carriage moves rightward. Press the key again, the carriage moving stops. Press Exit to back.
	Margin_Set	Lighten this item by using Up or Down kay, press OK to confirm, the carriage moves to printing origin position. Press Left or Right key to move the carriage to the new origin position, then press OK to confirm, the carriage will move to home position and standby. The next printing will be stated from the new origin position. Press Exit to back.
	Media_detect	Lighten this item by using Up or Down kay, press OK to confirm, the carriage will move left to detect the paper edges, then record the paper width. (this function is not available for this printer)
Head_Clean	Heavy_Mode	Lighten this item by using Up or Down Key, press OK key to confirm. The printer starts head clean process automatically. The clean time is longer in this mode. This clean mode is chose while the nozzles are clogged in seriously.
	Std_Mode	Lighten this item, press OK to confirm. The printer starts head clean process automatically. The clean time is in normal. This mode is chose for regular clean request.
	Light_Mode	Lighten this item and press OK to confirm. The printer starts head clean process. The clean time is shorter in this mode. This is chose for a tender clean while start printer in second day.
	Cap_Clean	Lighten this item, press OK to confirm, the carriage move left. Press Down key to start sucking the waste ink from head capper by vacuum generated by pump. The operator can add some solution into the capper and let them sucked out. Put the solution again until the form pad in the capper becomes clean.

		Press Up key again to stop. Press Exit key, the carriage will move to home position, the display back to last Manu. Do this clean procedure every week.
	Capping	Lighten this item, press OK to confirm, the carriage moves right to capping station. The capper will rise up to cover the head. Please observe the rubber edge of copper touches the head surface well, there is no gap between the surface and rubber edge. It is must to do before switch off the printer. Otherwise the nozzle of head would not be wet well and gets dried out and damaged. Press Exit key, the carriage will move to home position and standby.
Param_Set	Wiper_Pos	Lighten this item, press OK to confirm. The wiper will turn to working position. Press Left or Right key to change to position of the wiper. The number displayed indicates the angle of the wiper turned. The position of the wiper has been set in the factory. This procedure is done by service engineer while the wiper is worn out and change.
	Wiper_Cycle	Lighten this item, press OK to confirm. The number displayed indicates the times the wiper wipes the head after cleaning. Use Left or Right key to change the number. The range is 1 to 3. The default is" 1". Mean the wiper wipes one time after cleaning. This procedure is done by service engineer only.
	Carriage_Spd	Lighten this item, press OK to confirm. Use Up or Down key to select the speed mode. Produ: the productivity is high but the image quality is little low Fine: the productivity is little low but the image quality is better
	Vacuum_Adj	Lighten this item, press OK to confirm. The vacuum fan starts run. Use Left or Right key to change the vacuum strength on printing platen. 0 is Disable, there is no vacuum generated on the platen. 1~9 indicates the vacuum strength from weak to strong. This value is depending on the thickness of the media, in most case, thin material requires weaker vacuum. Press Exit key to stop the fan and back.
	Auto_Purge	This is the function to keep nozzles wet by periodic jetting process while printer is in standby. Lighten this item, press OK to confirm. Use Left or Right key to change the value. Larger number indicates more strong head purging.

		For water base ink, 3 is recommended. For Eco-solvent ink, 5 is recommended.
	Auto_Clean	This is the function to keep nozzle wet by periodic jetting process during printing. All nozzles will jet while head pass through the purging pad in clean station after certain passes. Lighten this item, press OK to confirm. Use Left or Right key to change the value. 1：indicates all nozzles are purged after 36 passes. 9：indicates all nozzles are purged every pass. The default value is 0 (Disable).
	Vacuum_Mode	Lighten this item, press OK to confirm. Use Left or Right key to change the vacuum mode. 1：Auto: the vacuum is controlled by the system. The vacuum is generated with printing starts. The vacuum is off if there is no printing task existed. 2：Enabl: The vacuum is generated while the printer is on. 3：Disab: There is always no vacuum on the platen.
Syetem_Set	Head_Qty	Lighten this item, press OK to confirm. Use Left or Right key to choose the head number. “1” indicates that one head is used. “2” indicates that two head are used. The default number is 1.
	LCD_Cntrst	Lighten this item, press OK to confirm. Use Left or Right key to change LCD display contrast Press Left key, the display background will be more dark Press Right key, the display background will be more bright
	Language	Lighten this item, press OK to confirm. Use Left or Right key to select language. The default language is Chinese.
	Media_detect	Lighten this item, press OK to confirm. Use Left or Right key to enable or disable.. The default is Disable
	Cutter_Enabl	This is the function to cut off the media while finish printing task. (it is not available for this model) Lighten this item, press OK to confirm. Use Up or Down key to enable or disable the cutter. The default is Disable.

	Media_End	This is the function to detect the media usability. When the media end is detected, the system will alarm and pause the printer. (this function is no available on this model). Lighten this item, press OK to confirm. Use Up or Down key to enable or disable the function. The default is Disable.
	Load_Default	This makes all parameter back to default setting. Lighten this item, press OK to confirm. Use Up or Down key to choose the action. “No” indicates to keep the current setting. “Yes” indicates to re-set the parameter to default. Press OK key again to execute the action.
	About…	Lighten this item, press OK to confirm. The display will show firmware reversion and memory size
Engr_Mode (Press OK key, enter the password 98766, press OK key to enable this feature)	Motion_Test	Lighten this item, press OK to confirm. The carriage starts moving left and right and repeat. This is used for carriage moving test.
	Speed	Lighten this item, press OK to confirm. This is used to set up the value of printing speed. Use Up or Down key to choose mode, use Left and right key to change the value. The bigger number indicates the carriage moves faster. 9 is the default value of Prod mode 6 is default number of Fine mode. Press OK key to confirm the setting and back.
	Print_Width	This function is used to set up maximum printing width of the printer. Lighten this item, press OK to confirm, press Left key to move the carriage to left side until the carriage is 10mm away from the mechanical limit, press OK again to save the value. The carriage will move back to home position, the display back to previous Manu. Note: the new data will be in effective after restart the printer.
	PurgePosiyion	This is used to define the position of head purge. Lighten this item, press OK to confirm, the carriage will move to flushing position. Use Left and Right key to move the carriage. Make sure the head is in the right position above head capper. Press OK to save the value, the carriage will move to capping position.
	Voltage_Adj	This function is used to change head firing voltage. Please be noted that

		there is a minor difference for different type of ink. Lighten this item, press OK to confirm, use Up and Down key to change the value. The range is 0 to +3. For water based ink the default value is 0 For eco-solvent ink, the default value is +1.7 Press OK to back.

Chapter 4 Software & Operation Instruction

4.1 Software Instruction

4．1．1 Operation Environment

Hardware：CPU Intel Pentium4 and above - 2GHZ , 1G Memory,

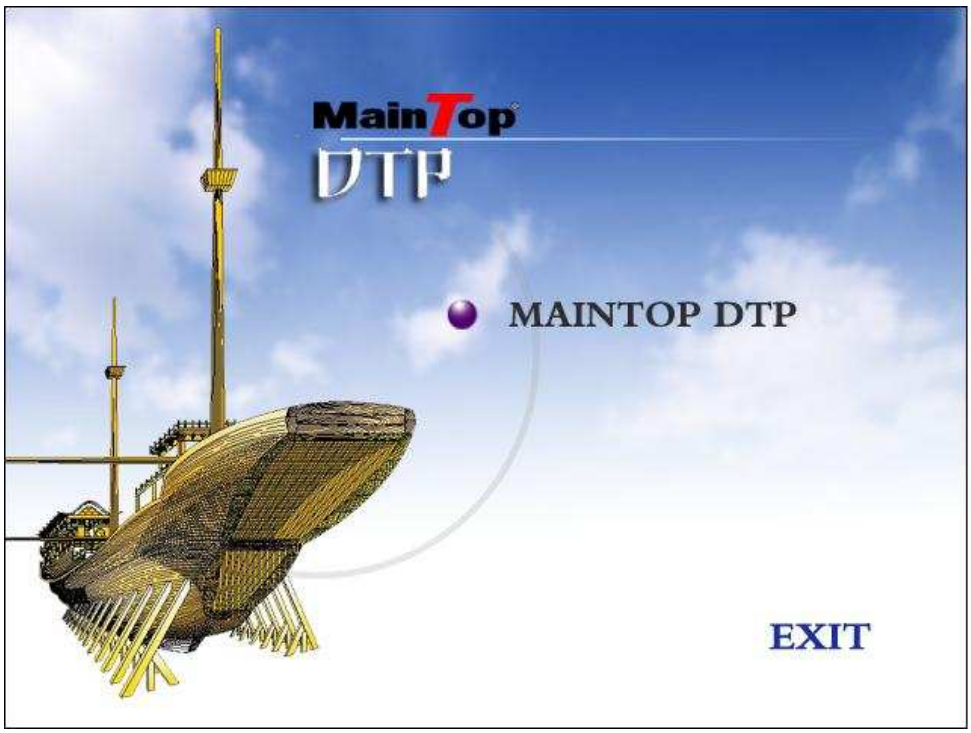
Display Resolution: 1024X768 and above

Operation System: Windows2000, XP, WIN7.

4.2 Operation Procedure

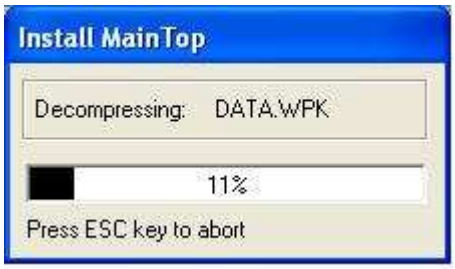
4.2.1 Install RIP and Printer Set-up

1. Insert MainTop CD into driver, the program will be auto run and display as below:

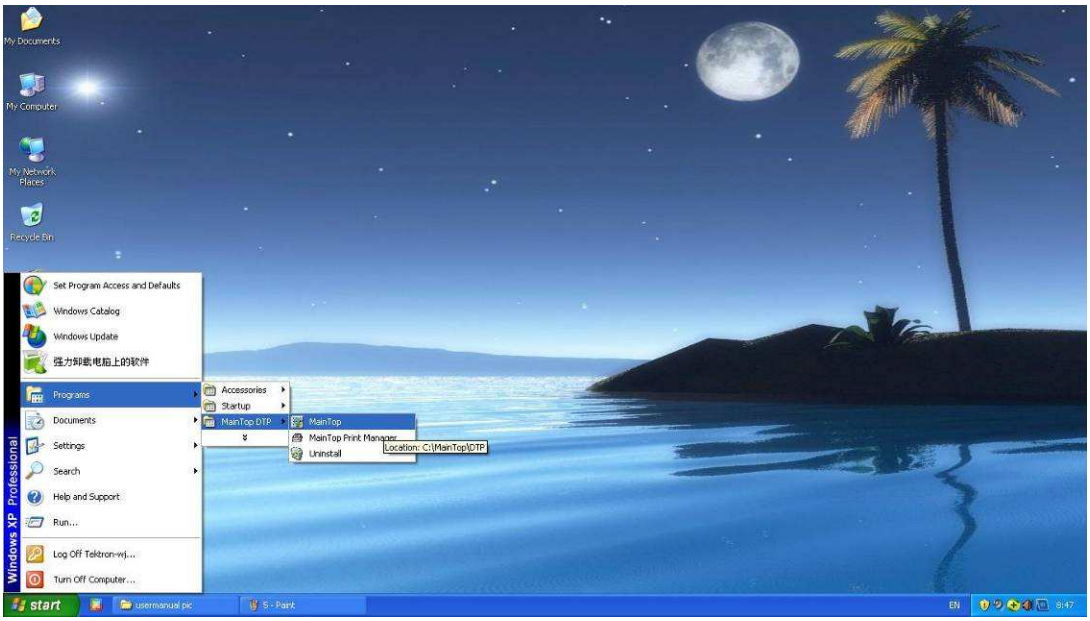


2. Click“MAINTOP DTP ”,

Note：The system recommends to install the software in default route. Restart computer after finish installation.



3. Start the program. Refer to follow fig:

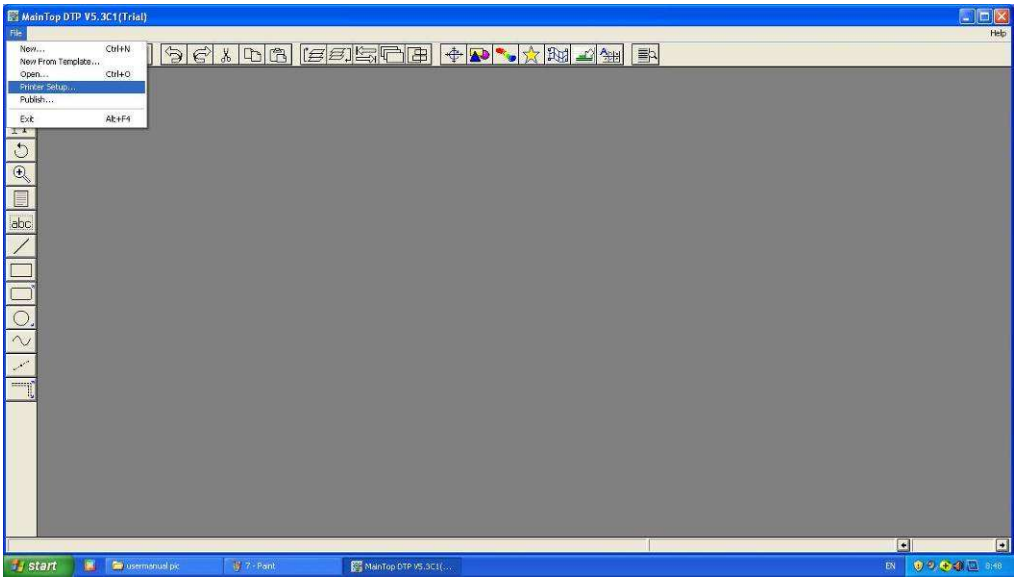


Note：Please make sure the MainTop RIP Dongle is inserted in USB port otherwise the follow massage will be displayed:

Please Insert Dongle
Warning: System can not check the dongle!
Reasons:
1. What you use is Trial;
2. Dongle is damaged or not inserted;
3. Computer's motherboard interface loses contact.
Only use as Trial, affect:
1. Print limitation are breadth of A4, precision of 300dpi
Export with float watermark when over print limitation;
2. Can not export picture (except for GMF);
3. Can not save file.
Don't display this dialog again
OK

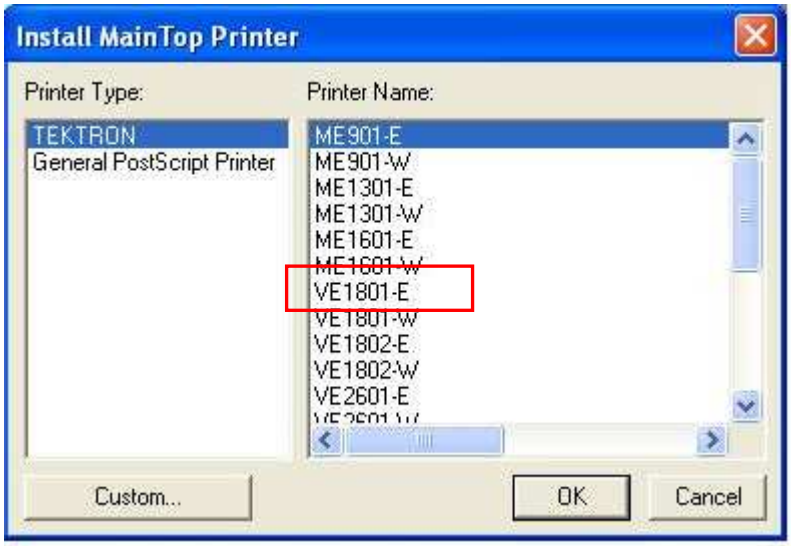
4 Open RIP software and make printer setting.

Click “File”, choose “Printer Setup”



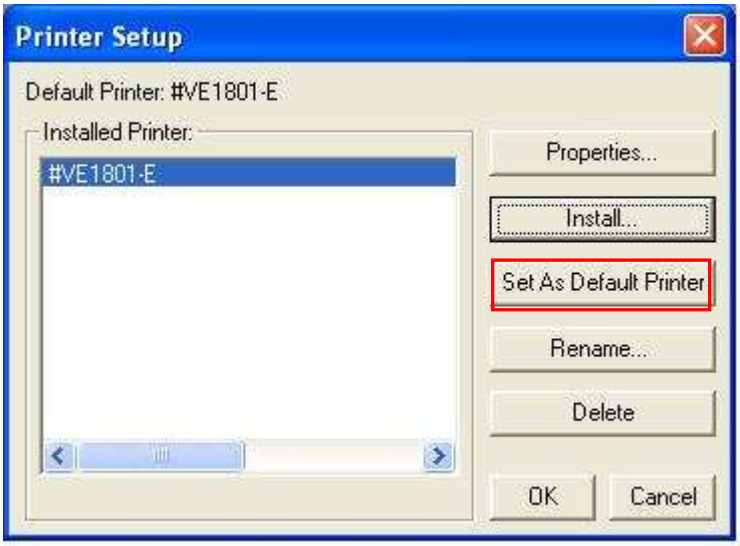
Click ”Install”

Choose “TEKTRON” in Printer Type list



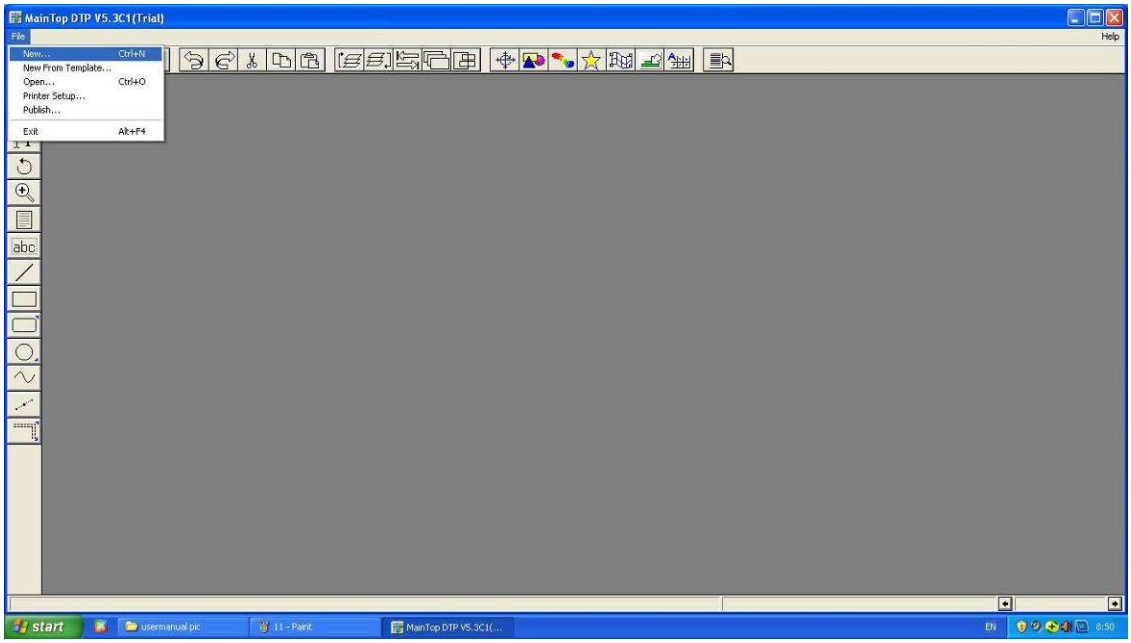
Choose Printer Name. (VE1801-E for example)

Click “OK” back to precious Manu. Click ” Set As Default Printer”.



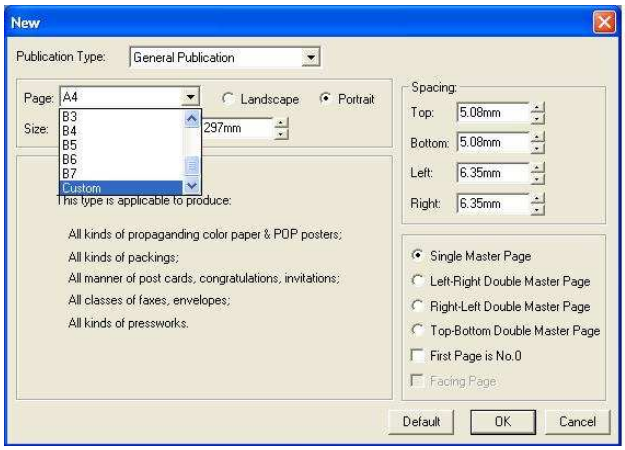
4.2.2 Print Task and Image Edit

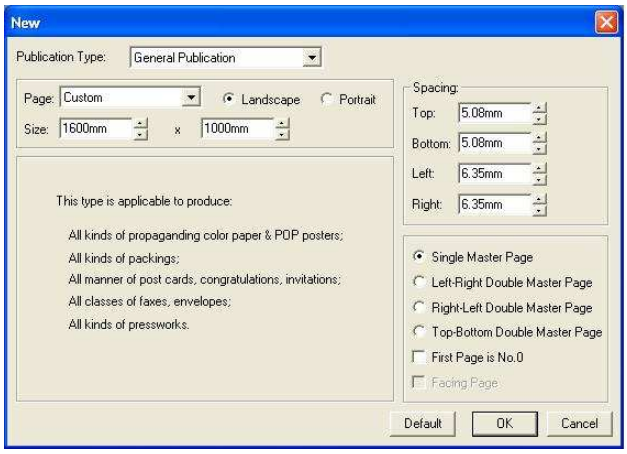
1：Create a new print task, Click “New…” refer to below:

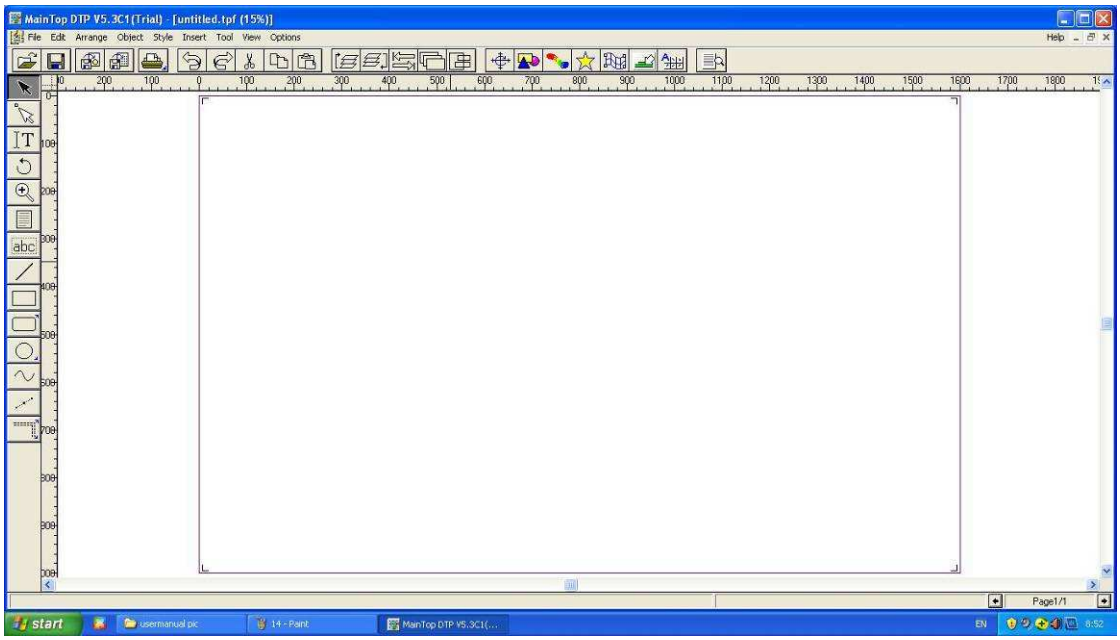


2：Set printing media width

Click “Custom” under Page; Here we set the width as 1600mm, the length is 1000mm for example:

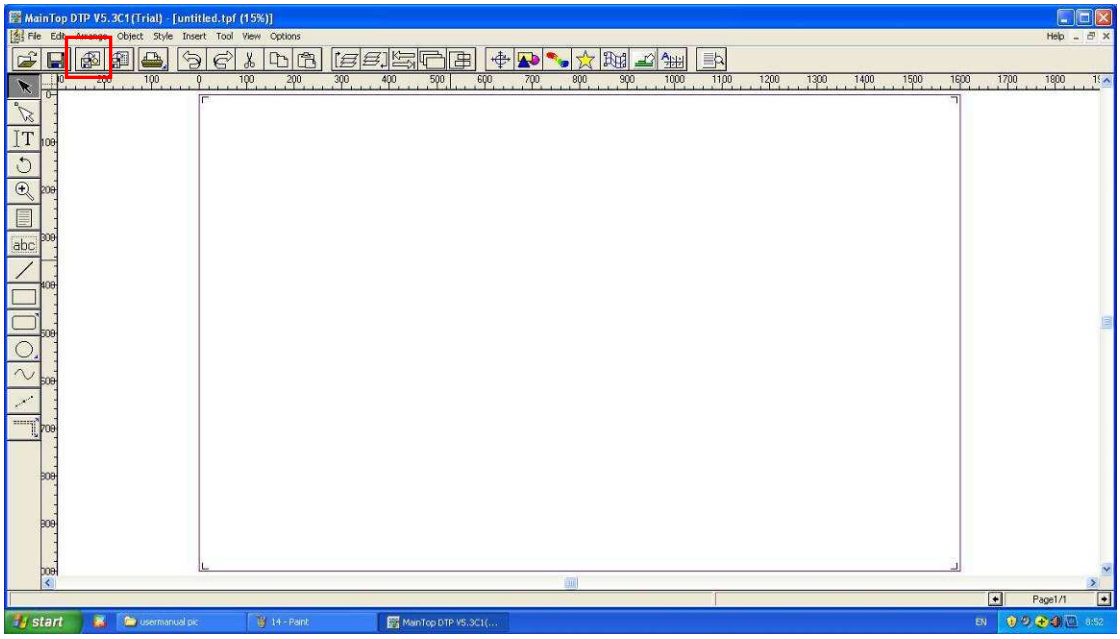

New
Publication Type:
General Publication
Page:
A4
Landscape
Portrait
Size:
B3
B4
B5
B6
B7
Custom
297mm
This type is applicable to produce:
All kinds of propaganding color paper & POP posters;
All kinds of packings;
All manner of post cards, congratulations, invitations;
All classes of faxes, envelopes;
All kinds of pressworks.
Spacing:
Top:
5.08mm
Bottom:
5.08mm
Left:
6.35mm
Right:
6.35mm
Single Master Page
Left-Right Double Master Page
Right-Left Double Master Page
Top-Bottom Double Master Page
First Page is No.0
Facing Page
Default
OK
Cancel


New
Publication Type:
General Publication
Page:
Custom
Landscape
Portrait
Size:
1600mm
x
1000mm
This type is applicable to produce:
All kinds of propaganding color paper & POP posters;
All kinds of packings;
All manner of post cards, congratulations, invitations;
All classes of faxes, envelopes;
All kinds of pressworks.
Spacing:
Top:
5.08mm
Bottom:
5.08mm
Left:
6.35mm
Right:
6.35mm
Single Master Page
Left-Right Double Master Page
Right-Left Double Master Page
Top-Bottom Double Master Page
First Page is No.0
Facing Page
Default
OK
Cancel

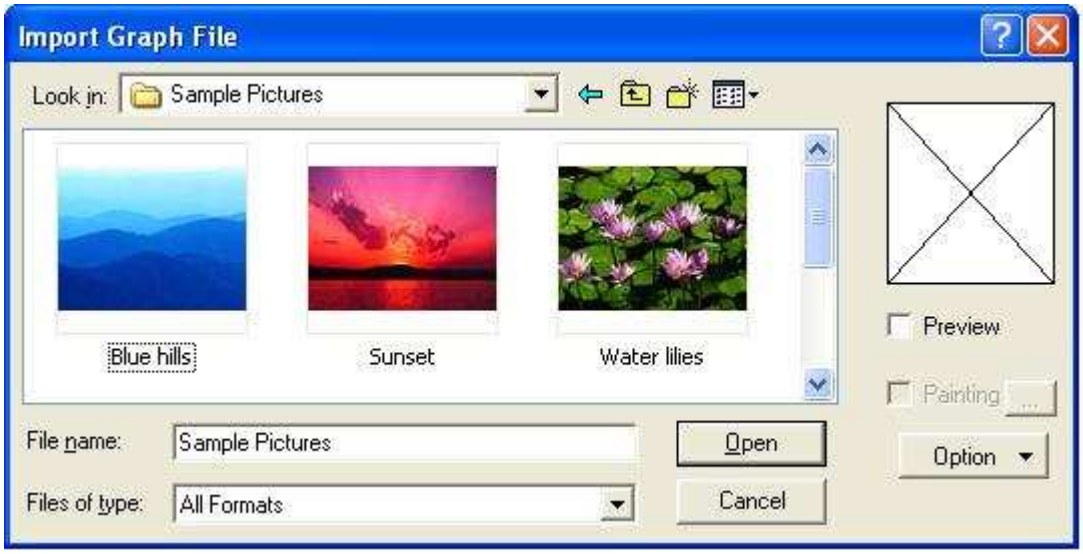

MainTop DTP V5.3C1(Trial) - [untitled.tpf (15%)]
File Edit Arrange Object Style Insert Tool View Options
Help
Page1/1
start

3：Load the image

Click “ Load Image” shortcut:



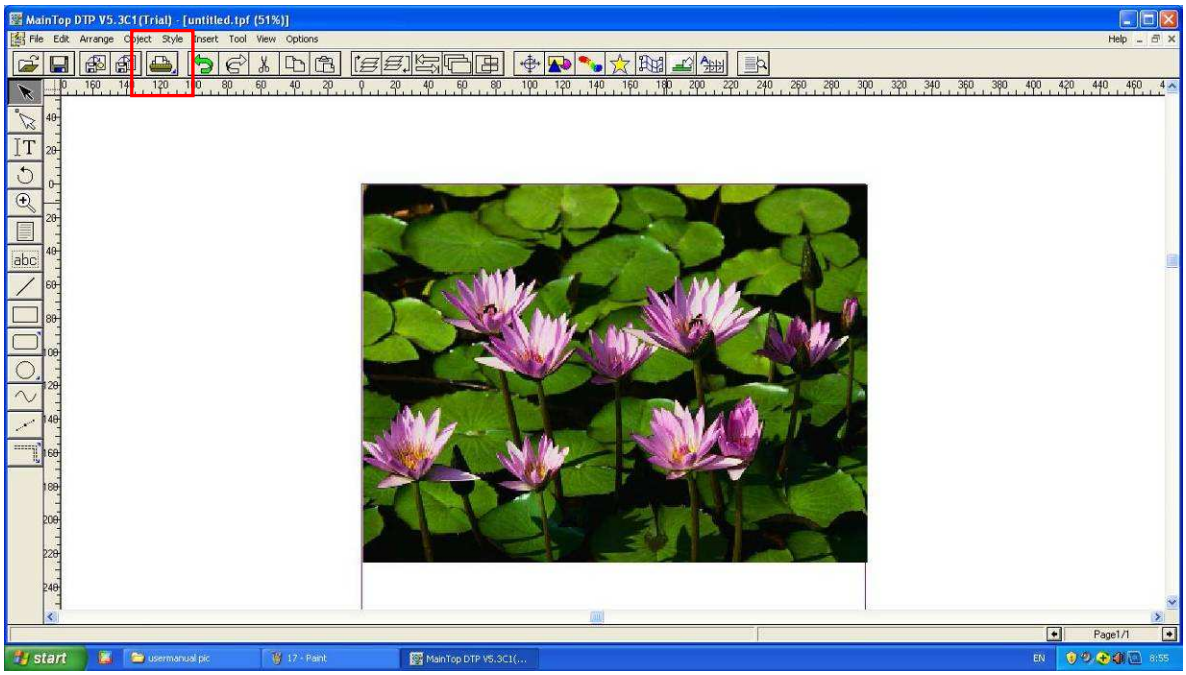
Choose the image from the file:



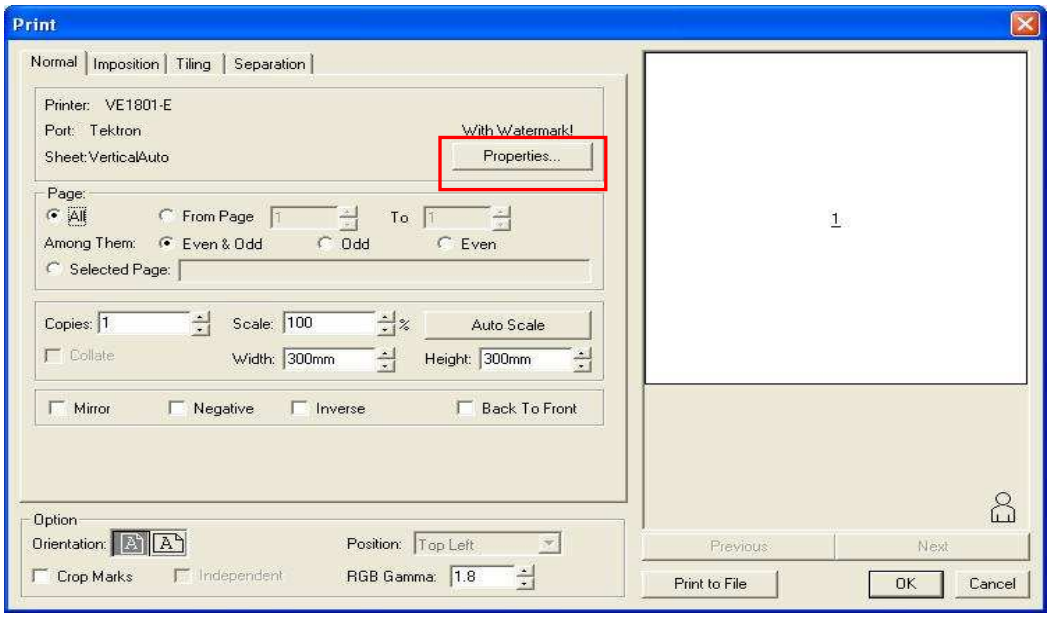
Choose “Off” under Page of Image Picture Setting:

4.2.3 Print Mode and Parameter Setting

1： After finish image editing, click “Printer” to set up print parameter:

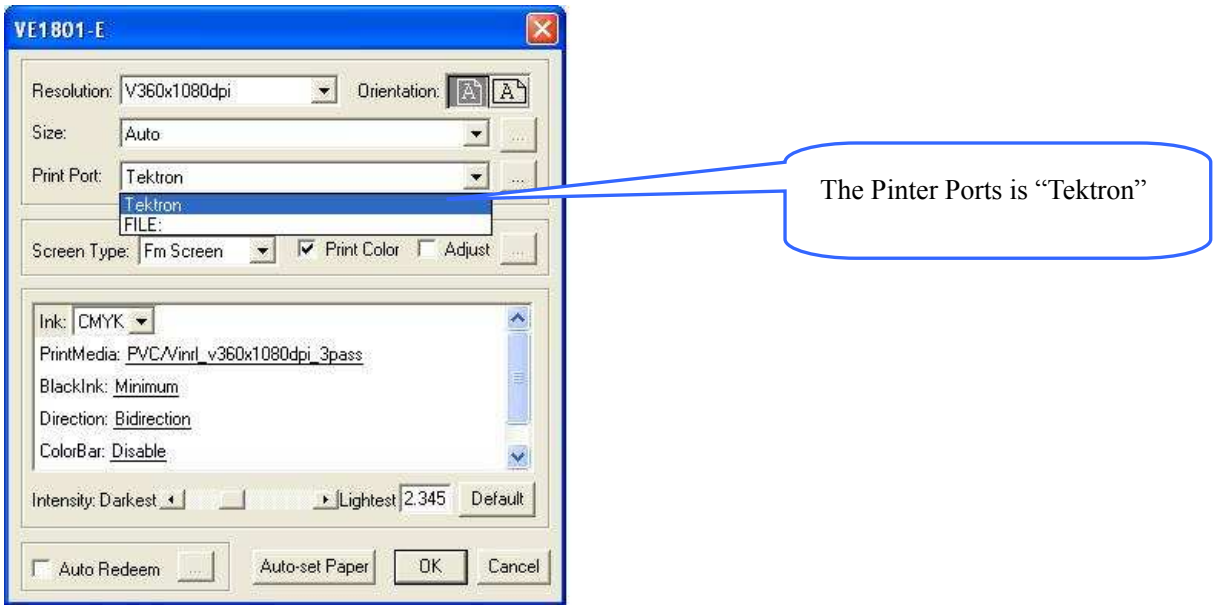


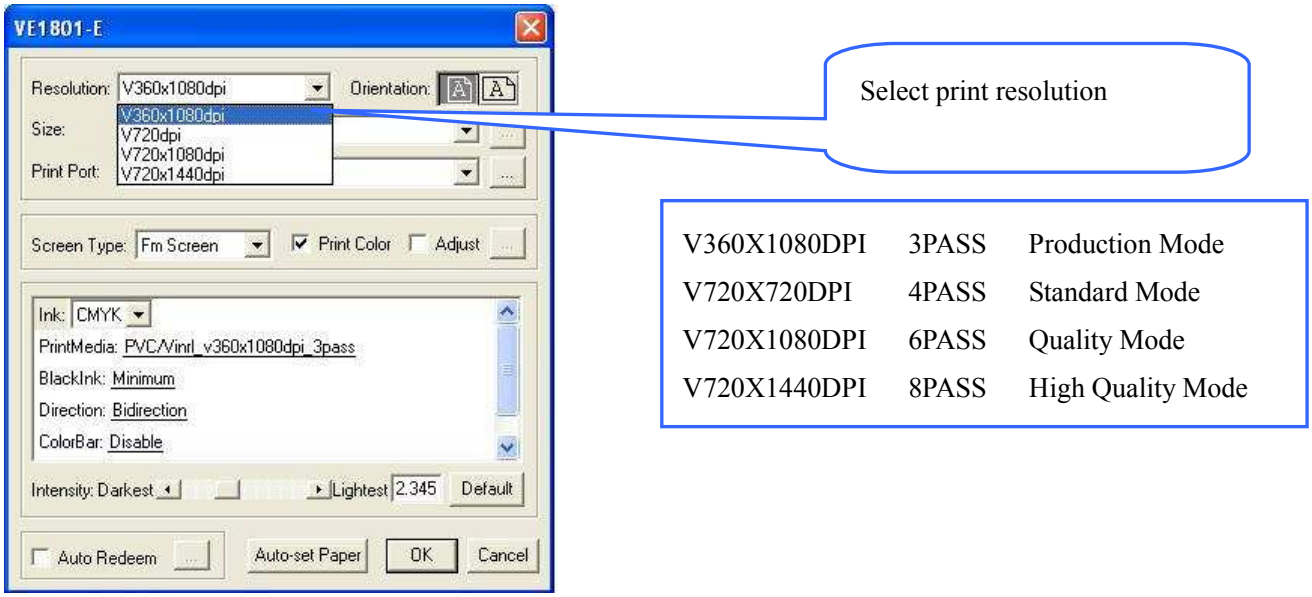
The below dialogue window displays:



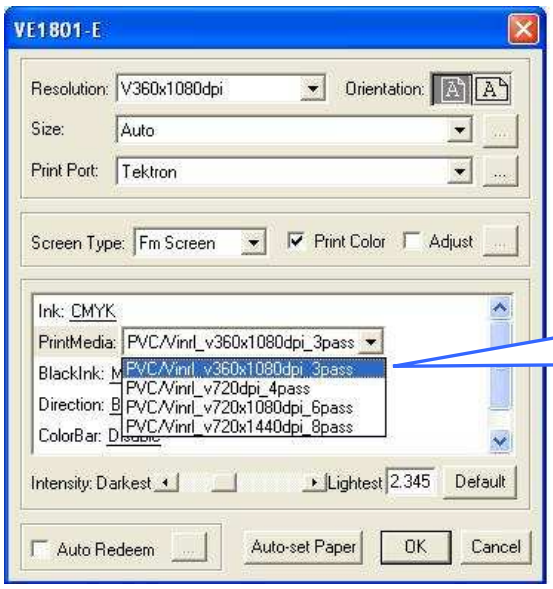
Please refer to RIP user manual for detailed instruction. The operator can keep default parameter set.

Click “Properties…”, below window will be displayed:



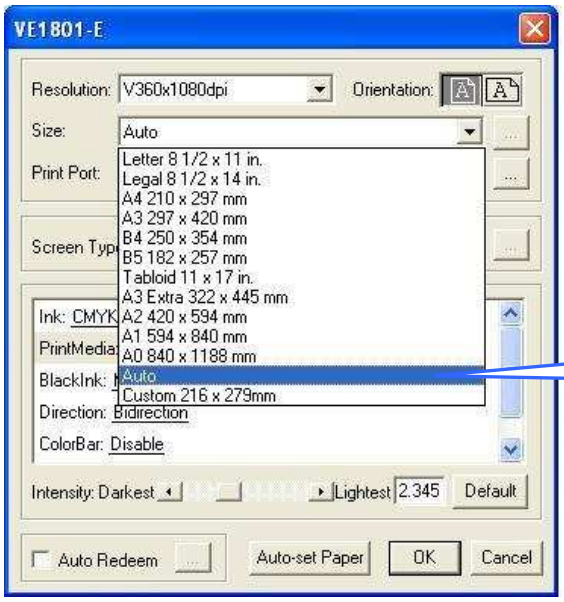


Choose ICC profile



Choose ICC Profile

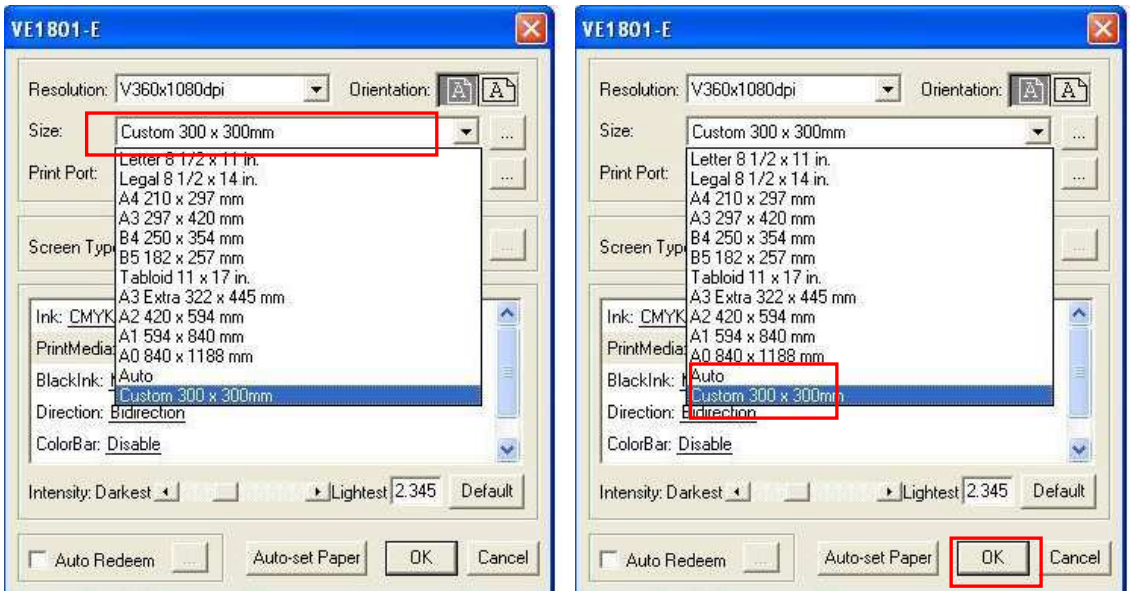
Note：ICC profile shall match with the resolution selected.



The default media size is “Auto”

Click ”Auto ” , the system would recall the media size while image size edited.

In example, the window will show Customized 1600mmX1000mm”



Click “OK” to back to previous Manu, see below fig:

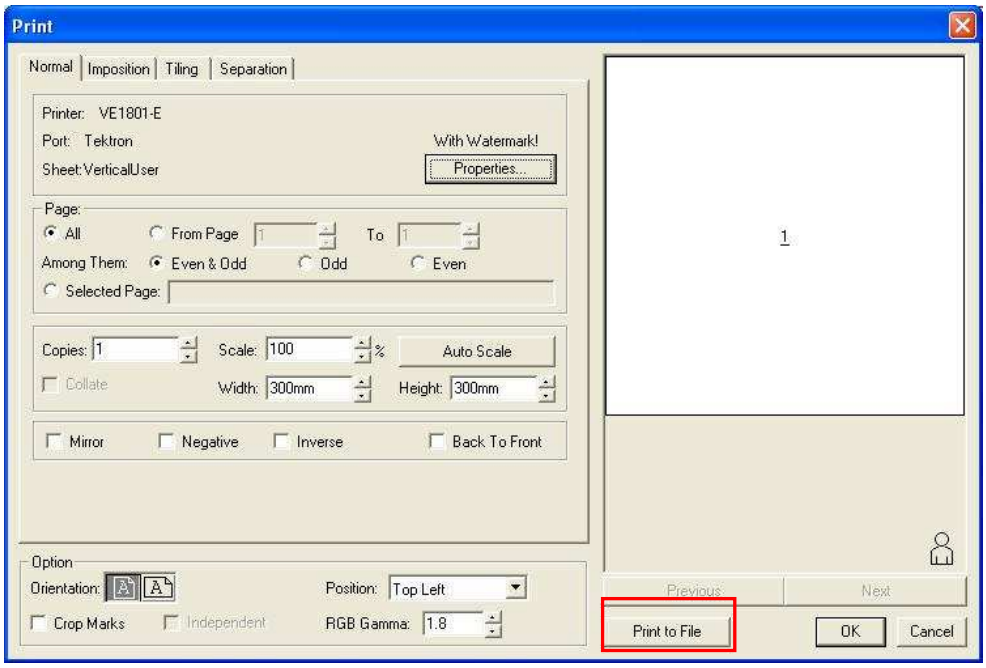
There are two printing methods while print an image:

- One method is that the system will convert the image into RIPed format, then print.

  Click “Print To File”, the software starts to convert the image.

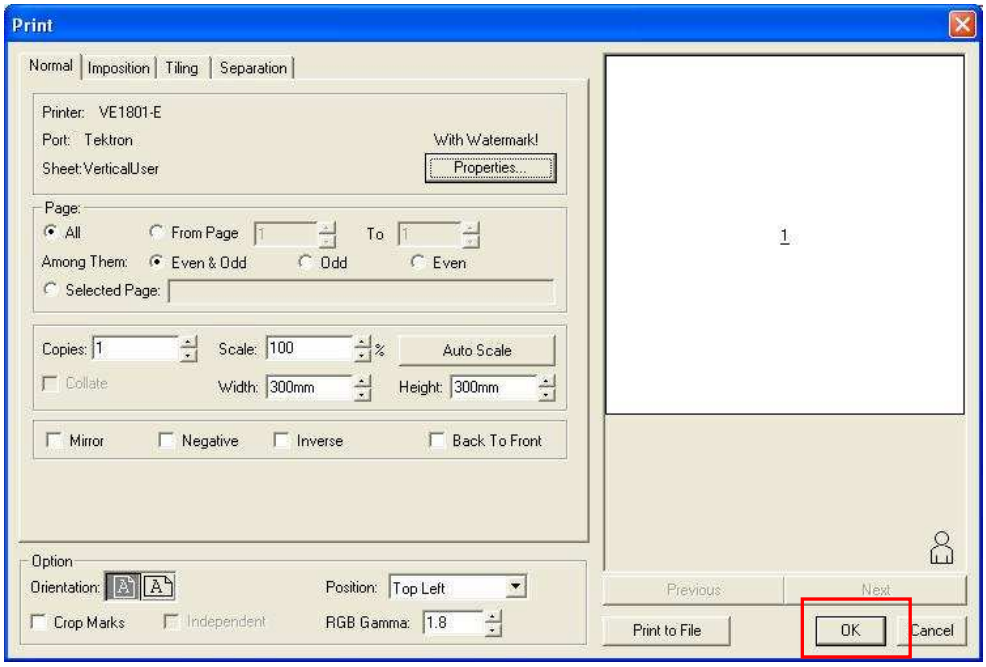
  As the image data has been converted in RIPed file before print, so while the printer prints a RIPed file, the printer would not be interrupted and wait the data processed by the PC.

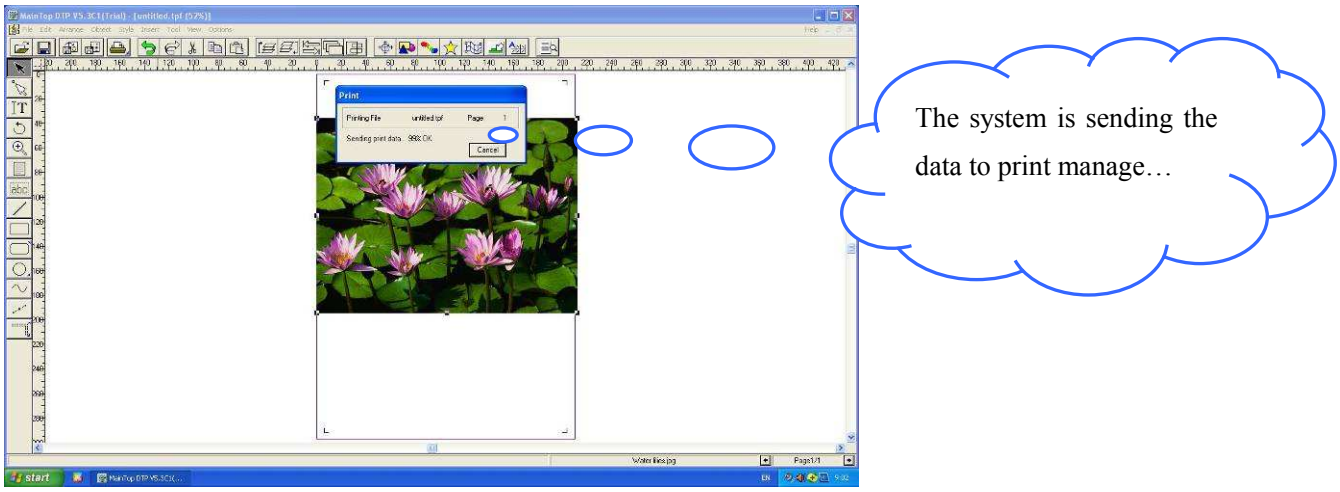
  The disadvantage is the printer is not printing the image in real time. The RIPed file will take big space on memory.



- Anther method is real print

Click “OK”, the system will transfer the data to “Print Manager, see below fig,

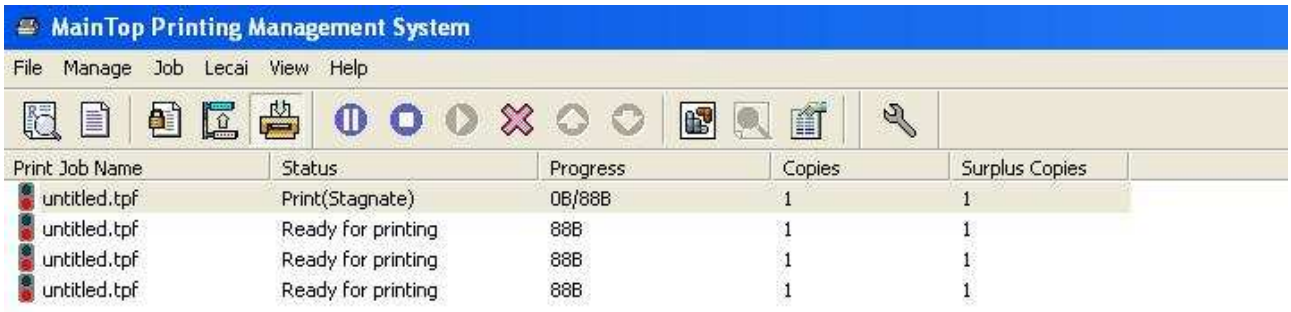




Note: While choose real print method, the Print Management System will run automatically. The data will be transferred Print Management System while RIPing.

4.2.4 Printing Management System

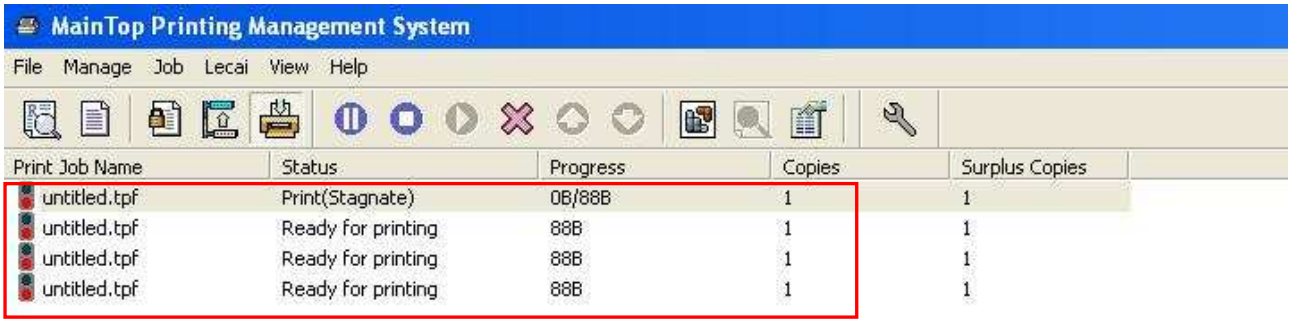
1：when set Printing Management System first time, the operator has to use Real Print method to open Printing Management System, otherwise Printing Manager will not find Tektron Printer Port. See follow


MainTop Printing Management System
File Manage Job Lecai View Help
Print Job Name Status Progress Copies Surplus Copies
untitled.tpf Print(Stagnate) 0B/88B 1 1
untitled.tpf Ready for printing 88B 1 1
untitled.tpf Ready for printing 88B 1 1
untitled.tpf Ready for printing 88B 1 1

2：Printing Management System

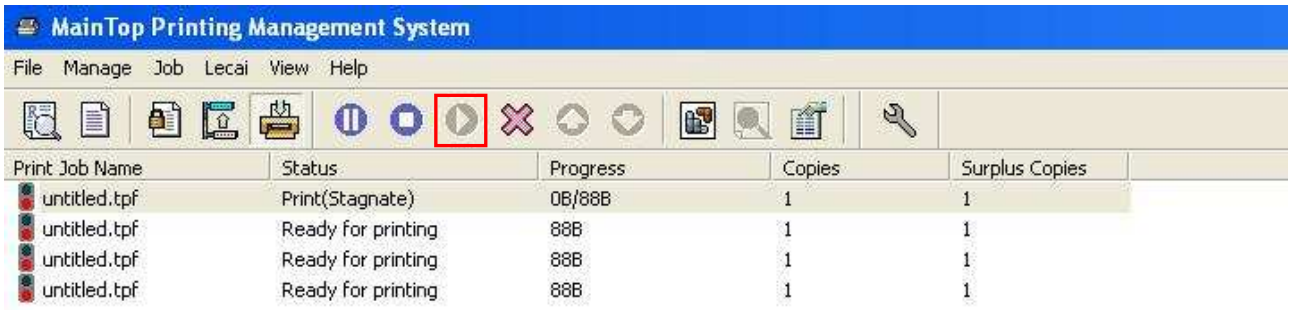
(Please refer to MainTop User Manual for further information)

The Printing Management System is showed as below:


MainTop Printing Management System
File Manage Job Lecai View Help
Print Job Name Status Progress Copies Surplus Copies
untitled.tpf Print(Stagnate) 0B/88B 1 1
untitled.tpf Ready for printing 88B 1 1
untitled.tpf Ready for printing 88B 1 1
untitled.tpf Ready for printing 88B 1 1

The listed Print Job Name are the images to be printed.

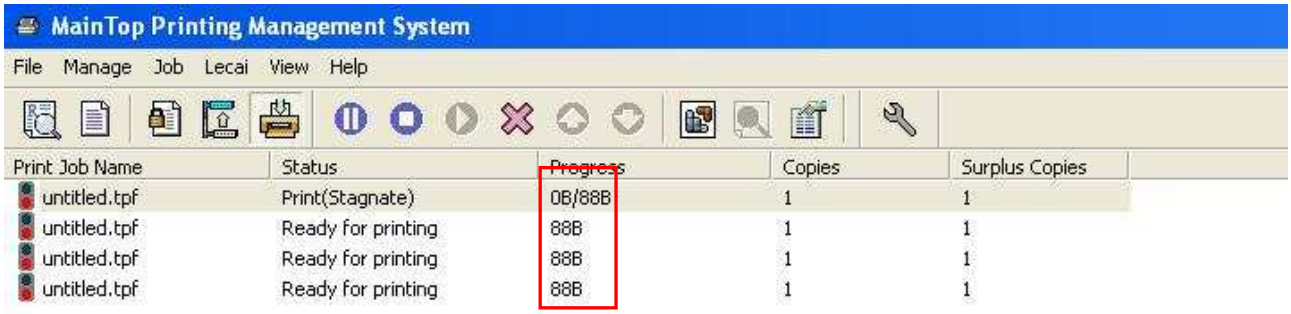
The operator shall select and lighten the task, then click print button, the printing will start.


MainTop Printing Management System
File Manage Job Lecai View Help
Print Job Name Status Progress Copies Surplus Copies
untitled.tpf Print(Stagnate) 0B/88B 1 1
untitled.tpf Ready for printing 88B 1 1
untitled.tpf Ready for printing 88B 1 1
untitled.tpf Ready for printing 88B 1 1

Progress Status Bar:

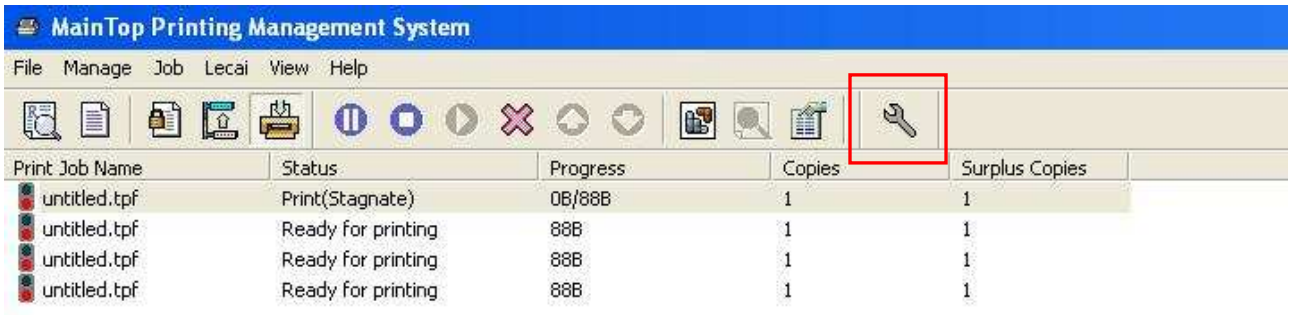
The data format is AA/BBB. BBB indicates the date volume has been transferred to Printing Management System. AA indicates the data volume that being transferred to printer through USB.

Tips： if there is no progress data indicates, that mean there is problem in data transition. You can re-start Printing Management System or printer to solve.

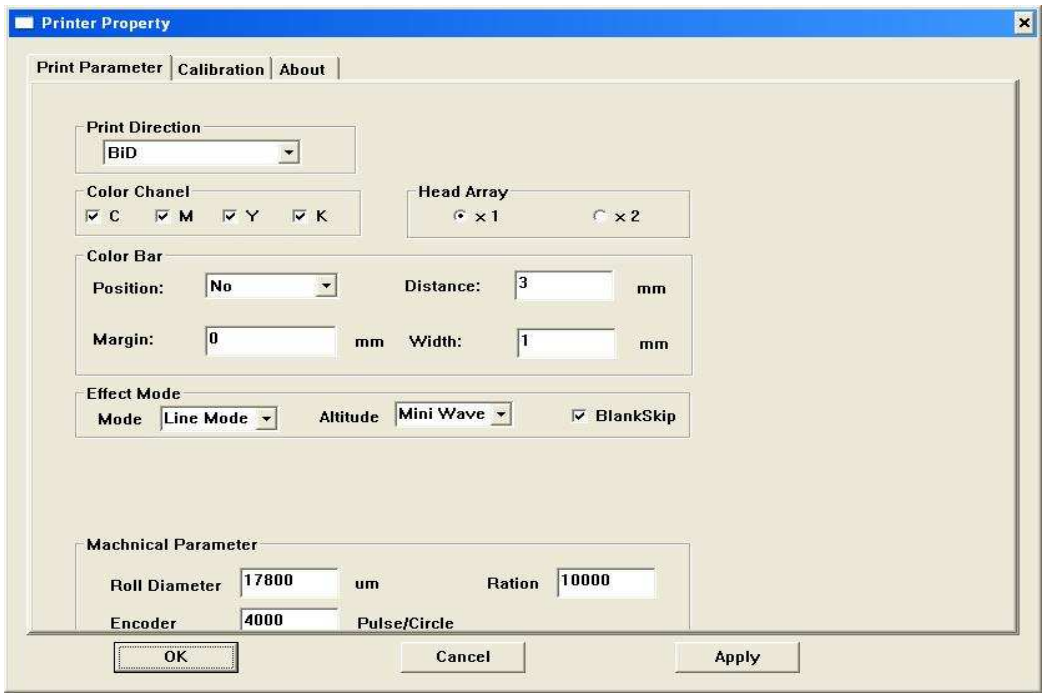

MainTop Printing Management System
File Manage Job Lecai View Help
Print Job Name Status Progress Copies Surplus Copies
untitled.tpf Print(Stagnate) 0B/88B 1 1
untitled.tpf Ready for printing 88B 1 1
untitled.tpf Ready for printing 88B 1 1
untitled.tpf Ready for printing 88B 1 1

4.3 Printer Property

Click “Printer Property ” shortcut：

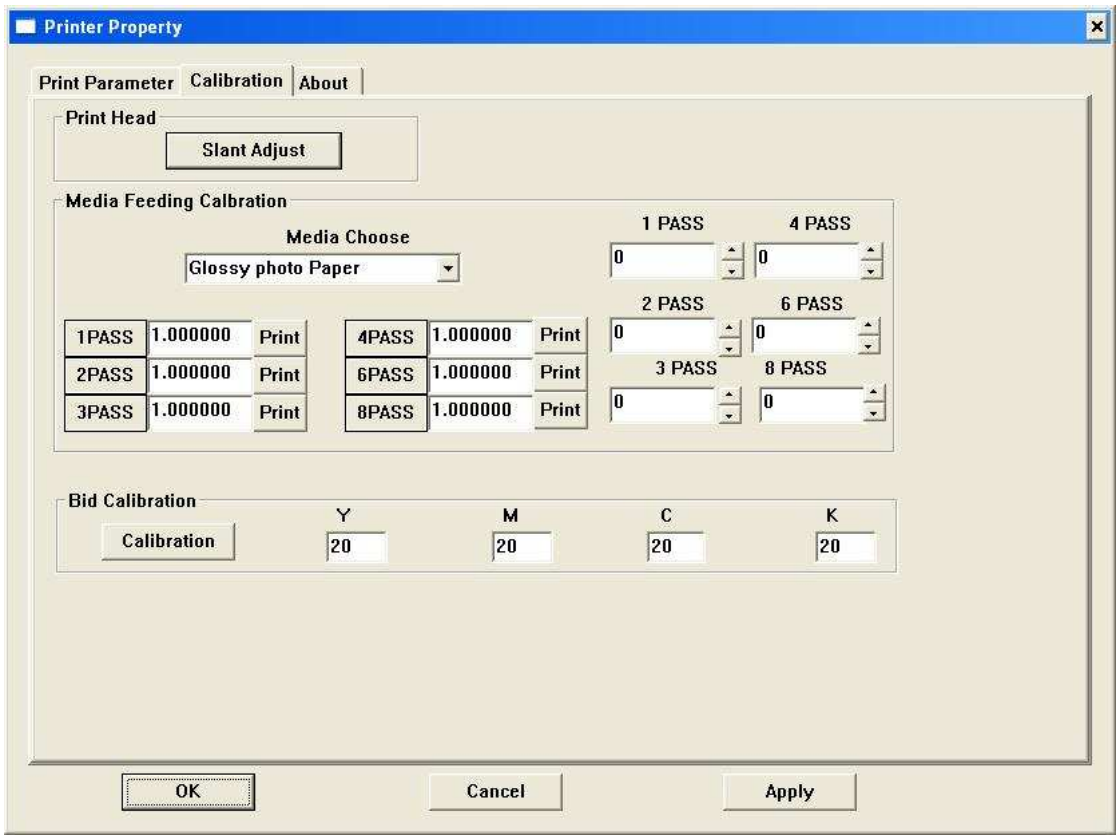

MainTop Printing Management System
File Manage Job Lecai View Help
Print Job Name Status Progress Copies Surplus Copies
untitled.tpf Print(Stagnate) 0B/88B 1 1
untitled.tpf Ready for printing 88B 1 1
untitled.tpf Ready for printing 88B 1 1
untitled.tpf Ready for printing 88B 1 1

Set Printer Parameter:



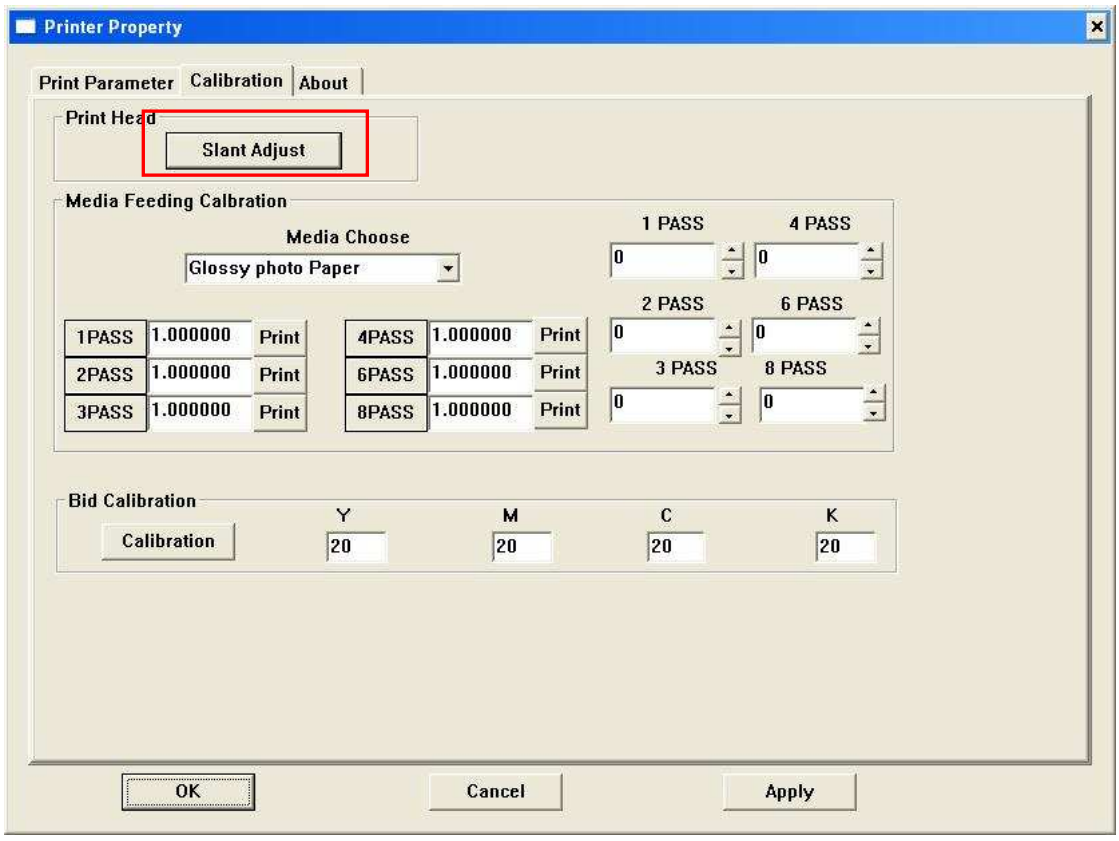
Item	Description		Function
1	Print Direction		Choose printing mode in scan direction. There are two mode: UNI means the printer print while carriage moves from right to left, and doesn't print while carriage moves from left to right. BiD mean that the printer prints in both directions while carriage moves.
2	Color Channel		Choose the color to be jetted. There are C,M,Y,K four ink channels can be chose.
3	Head Array		Choose head quantity.
4	Position		Select the color checking bar position. "No" mean there is no checking bar printed beside image. "Left" mean the checking bar printed in left side of image. "Right" mean the checking bar printed in right side of image. Both mean checking bar in both side.
5	Margin		The distance of checking bar from printing origin
6	Distance		The distance of checking bar from the image
7	Width		The width of each color of checking bar
8	Effect Mode	Line Mode	This is regular printing mode without discount of speed.
		Wave Mode	This is a wave processing method applied on each printing pass to recover the image problem (banding) caused by missing stepping or nozzle clogged. The printing productivity will be lower than normal.
		Feather Mode	This is a feather processing method applied on each printing pass to recover the image problem (banding) caused by missing stepping or nozzle clogging. The printing productivity will be lower than normal.
		Wave + Feather	This is a wave plus feather processing method applied on each printing pass to recover the image problem (banding) caused by missing stepping or nozzle clogging. The printing productivity will be lower than normal.
9	Altitude	Mini Wave	The Wave or Feather effect in less percentage
		Middle Wave	The Wave or Feather effect in little more percentage
		Big Wave	The Wave or Feather effect in more percentage
10	BlankSkip		The carriage or media moving will be quickly pass through none color or blank area in the image.
11	Roll Diameter		This is system parameter, the operator can not change
12	Ration		This is system parameter, the operator can not change
13	Encoder		This is system parameter, the operator can not change

Set Calibration：

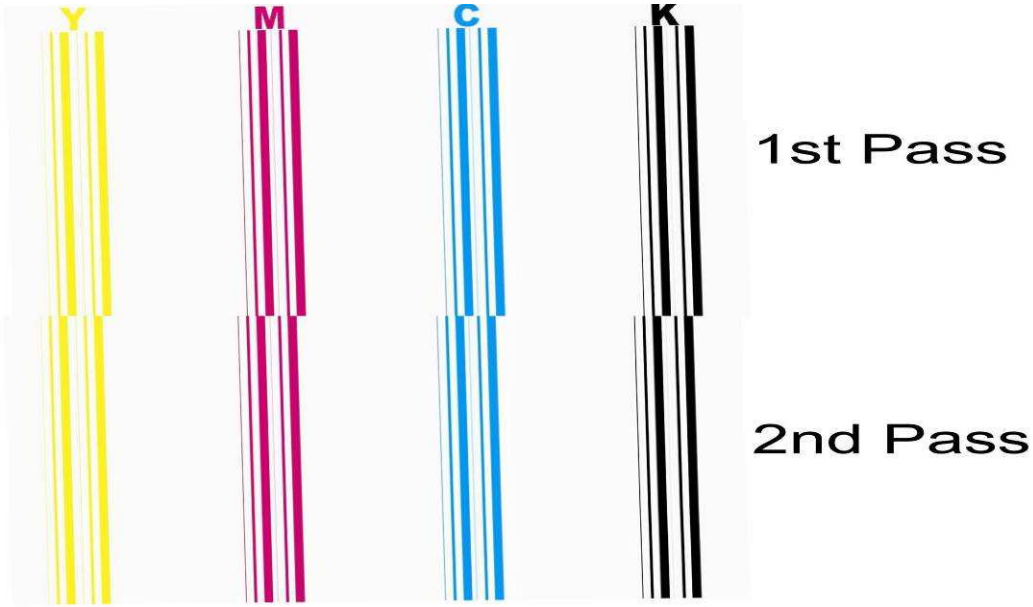


Item	Description	Function
1	Print Head	Slant Adjust: Print test chart for checking the head if there is any slant.
2	Media Feeding Calibration	Print test image for different pass mode, to verify stepping parameter.
3	Media Choose	The calibration parameter might be variable for different media. Once finish a calibration, save the data on the name of the media used. recall the file before print on this type of media in the future.
4	Bid Calibration	Print the checking chart for bi-direction printing calibration.

Print Head Alignment

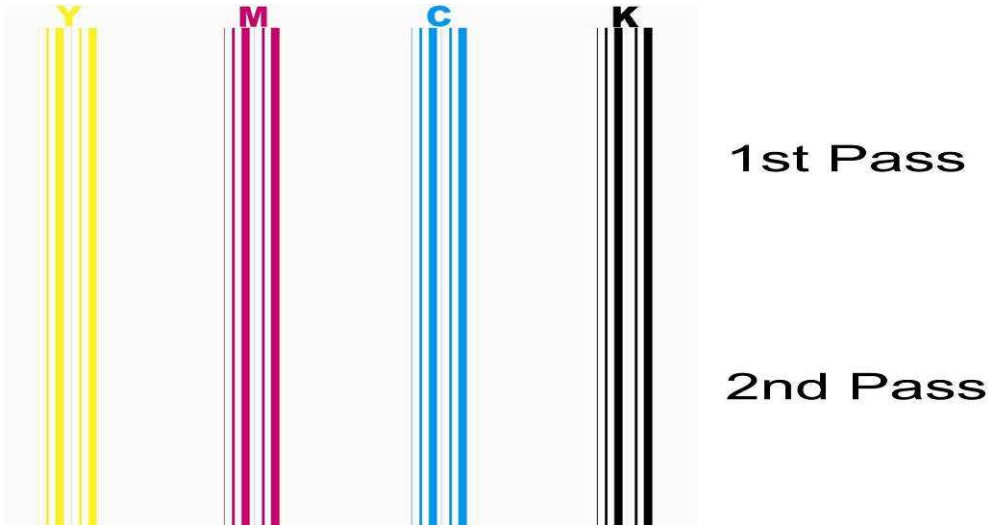


Click “Slant Adjust”, the printer will print the head check chart as below:



Loose three head fixing screws, turn head adjust screw slightly, print again until the

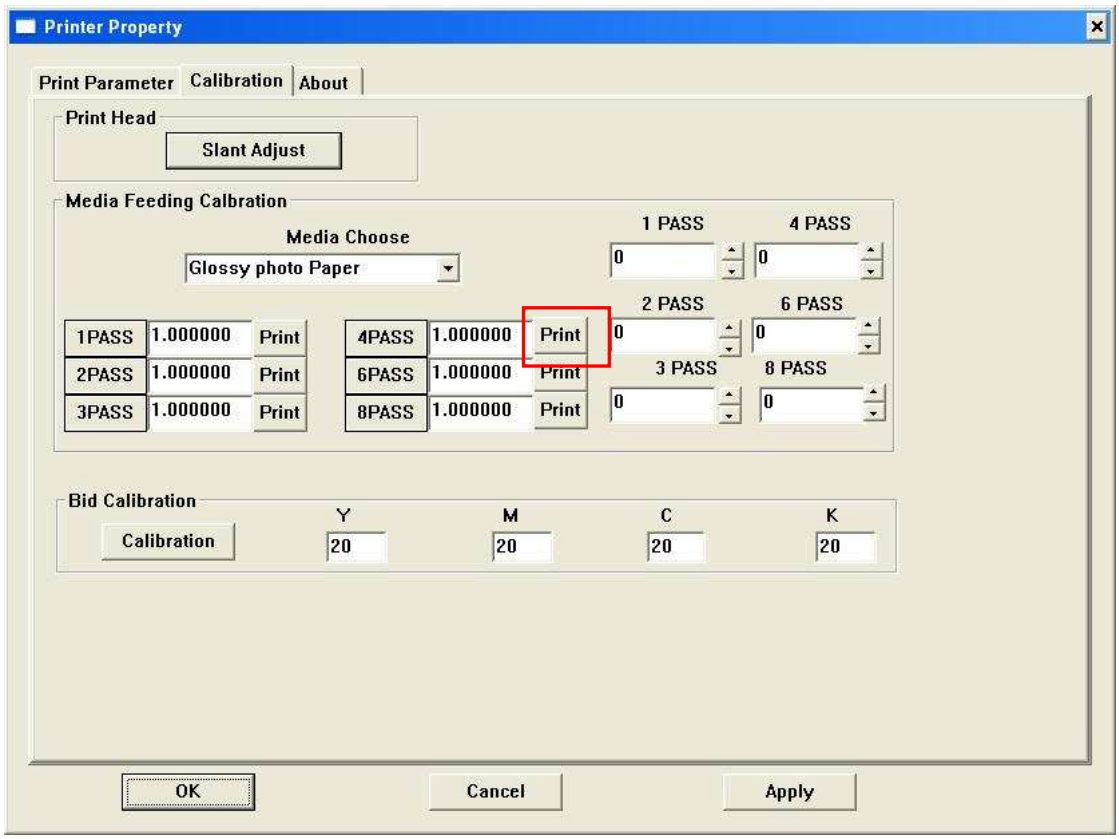
line for each printing pass align well:



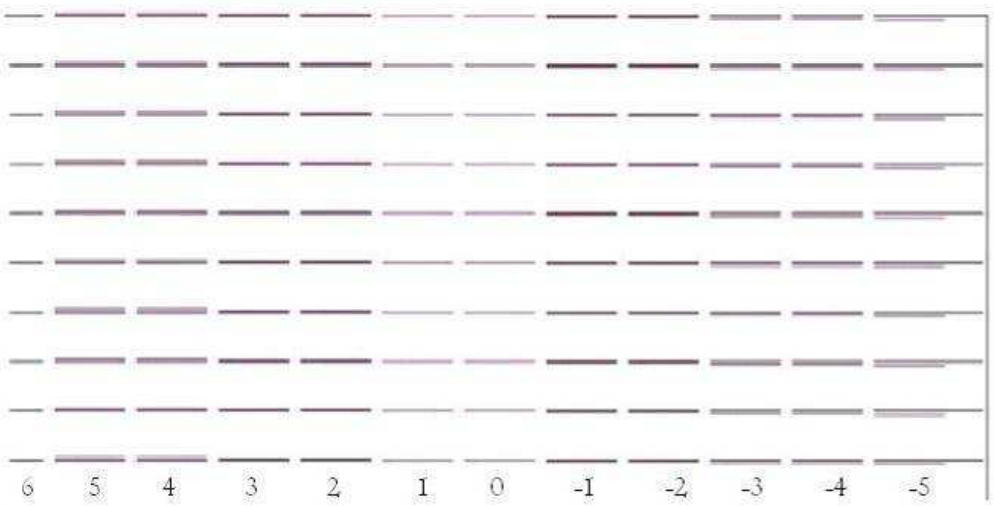
Media Feeding Calibration Procedure：

Do calibration for each Pass mode to achieve the best printing quality.

Take example for 4 Pass to instruct the procedure:



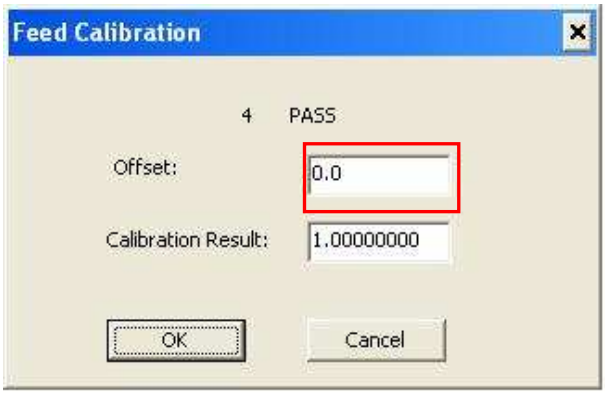
Click “Print” in 4 PASS mode, the printer will print calibration image as below:



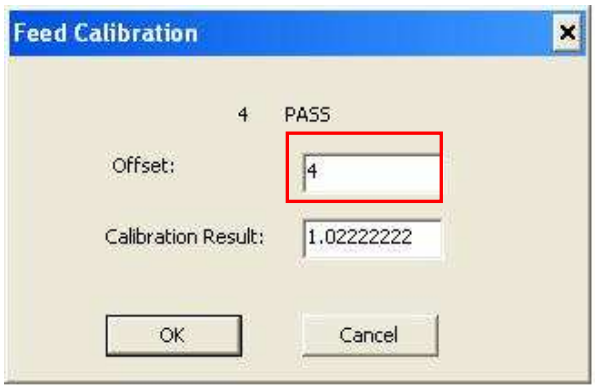
Read the deviation value from the chart. Check all line pairs in the chart, figure out

the number under the most matched line pairs, which is the value to be fill in calibration.

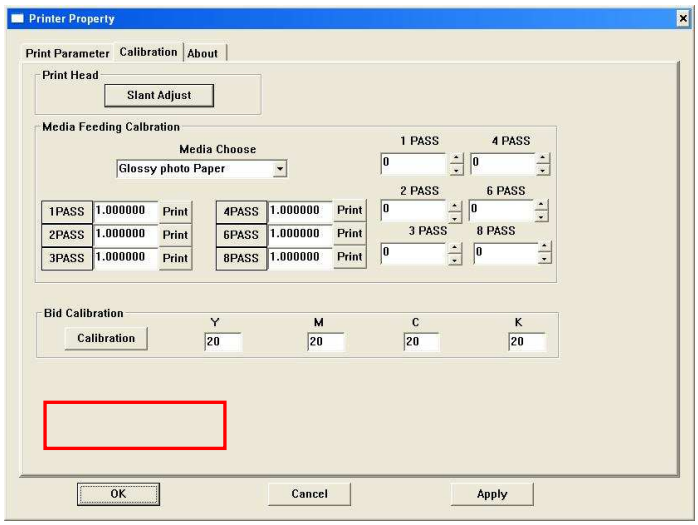
Click “ 4Pass” , the widow displays as below:



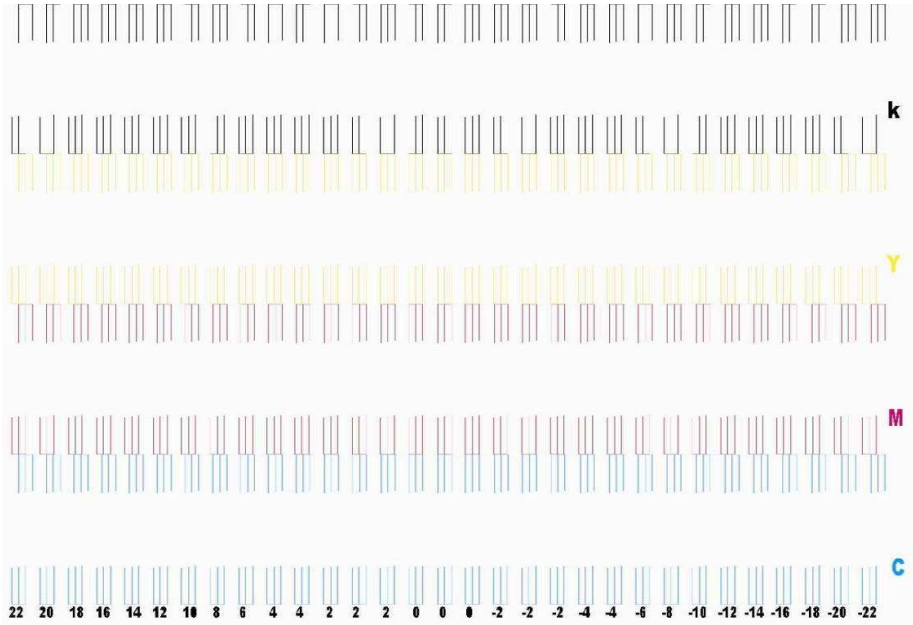
Fill the value read in the chart (assume the value is 4 for example) to offset window, click OK to save and back to previous Manu.



Bi-direction calibration procedure:

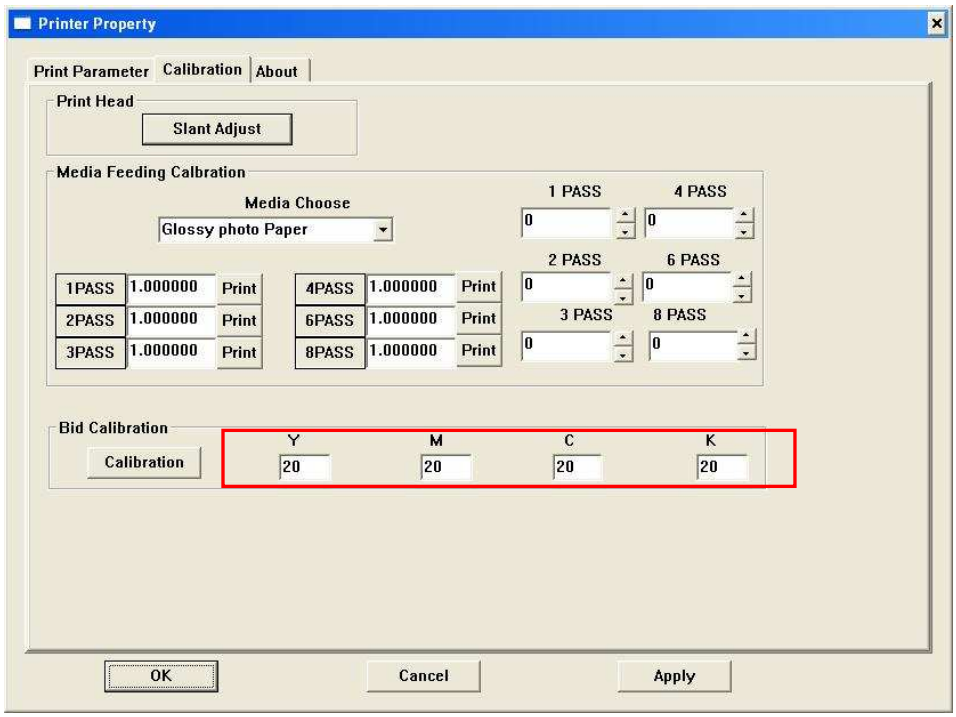


Click “Calibration” on Bid calibration, the printer will print the checking chart as below:



Look at the chart printed, find the each line of individual color that is most matching black line, the value under the line is the deviation to be filled in related color.

Fill the value to the window for each color, then click “Apply” to save.



Chapter 5 Ink Supplying and Capping System

5.1 Introduction

The ink supplying is nature siphonic method from the bulk cartridge to print head.

There are three clean methods for head cleaning that can be selected during printing.

5.2 Operation Diagram

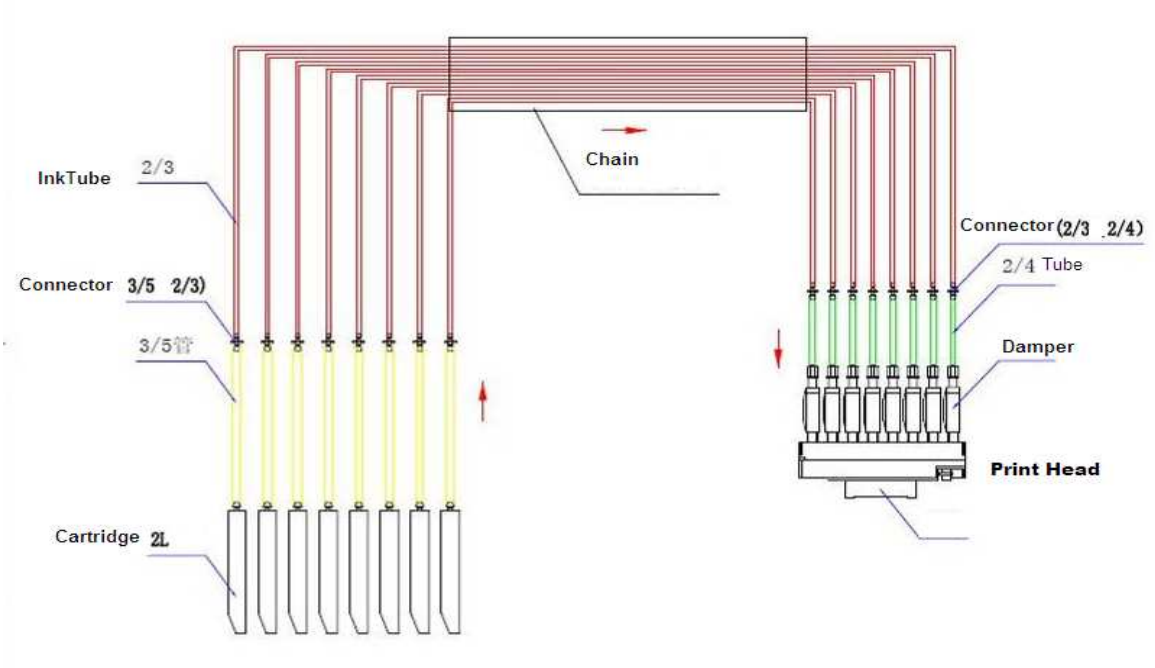
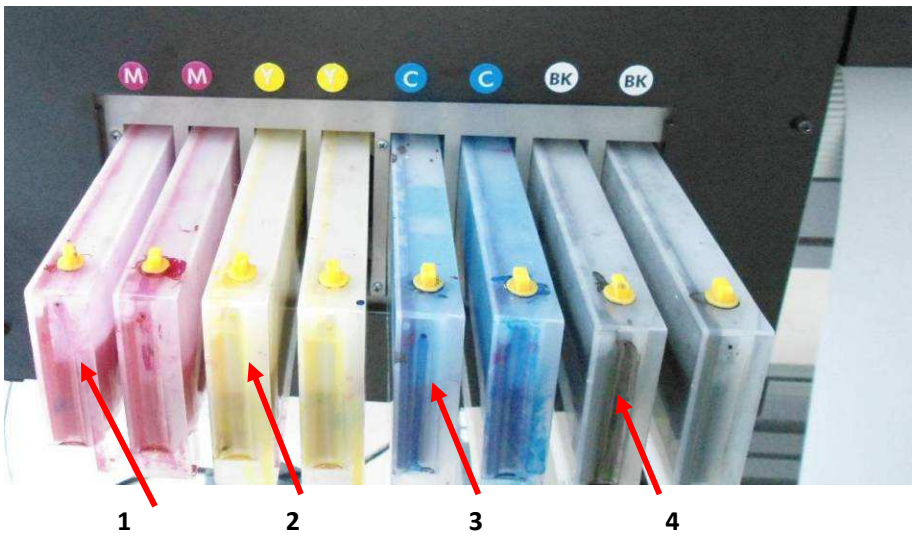
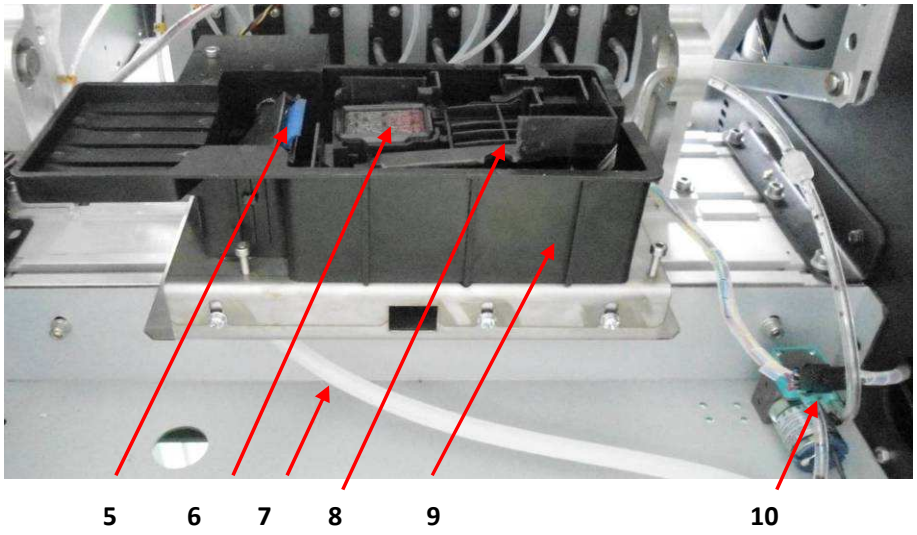


Fig 5-1 Clean System Diagram

5.3 System Structure

5.3.1 Introduction





Item #	Description	Function
1	Ink Cartridge Magenta (2)	Main ink store for magenta color ink, capacity is 220ML
2	Ink Cartridge Yellow (2)	Main ink store for yellow color ink, capacity is 220ML
3	Ink Cartridge Cyan (2)	Main ink store for cyan color ink, capacity is 220ML
4	Ink Cartridge Black (2)	Main ink store for black color ink, capacity is 220ML
5	Wiper	This is a wiper for removing the remain ink on the surface of nozzle after purging.
6	Capper	This is the capper for seal the head for keep wetting. It is also a container for store the ink such from nozzle while cleaning.
7	Waste Ink Tube	This is the tube for connecting the head capper with waste ink tank.
8	Capping Pad	This is a pad for waste ink or clean solution storage.
9	Capping Container	This is the main case for holding wiper, capper, pad, and collect the waste ink.
10	Vacuum Pump	This is the pump for generating vacuum for sucking the ink out from the nozzle while cleaning.

Chapter 6 Media Heating System

6.1 Introduction

The media heating system is an independent system, witch includes front, rear heater, and printing platen heater. The user can choose the heater for particular media to achieve the best printing results.

6.2 Operation Diagram

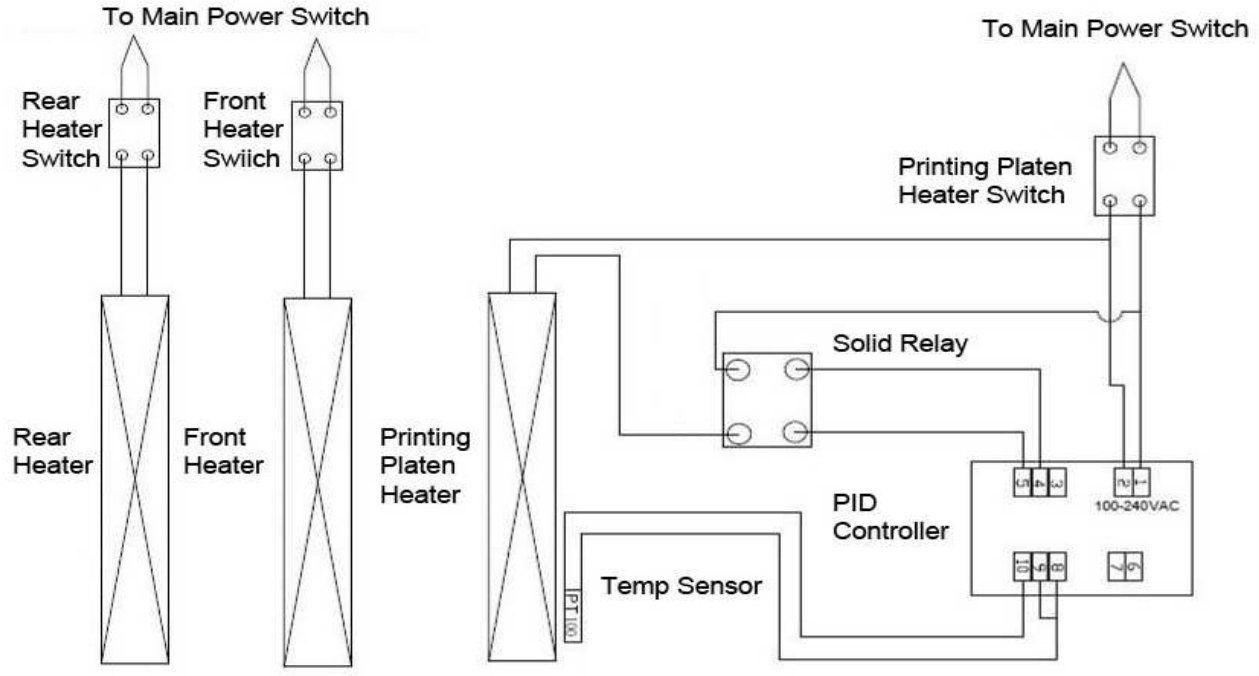


Fig 6-1 Heating System Diagram

6.3 Features

- The front and rear heater are constant temperature controlled.
- The printing platen heater's temperature is controlled by a separate PID controller. The user can set the temperature as required.
- All of the heater has a over heating protection for 70 ˚C. the power will be switched off while over temperature occurs. It can be recovered while the temperature is down.
- The input voltage is selectable for 110V AC or 220VAC.

6.4 Structure And Description

1 2 3 4 5 6

Item #	Description	Function
1	SET key	For Function change and confirm
2	Shift key	This is used to change the digit that would be changed
3	Down key	This is used for reducing the count
4	Up key	This is used for increase count
5	SV Set Value	This displays the temperature to be reached.
6	PV Presnt Value	This displays the actual temperature measured.

Procedure ：

Switch on heater power switch after turn on the main power switch of printer. The heater starts warming up. The default control point is 40℃.

To adjust the control point (for example, set to 50℃):

Step 1. Press SET,

Step 2: Press shift key, Lighten the digit to be changed.

Step 3 : Press or key to change the value.

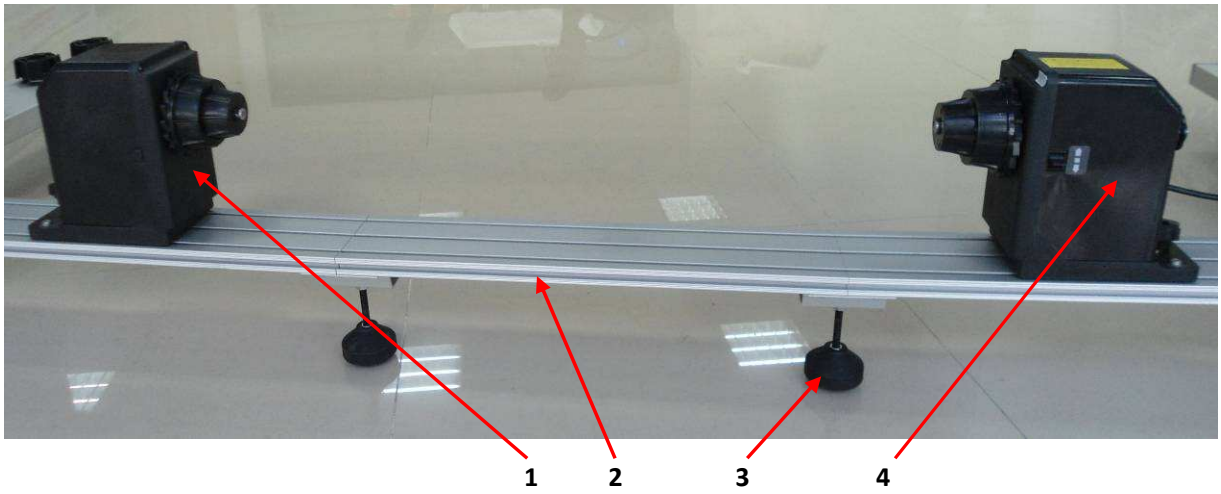
Step 4 : Press SET again to save the value and exit

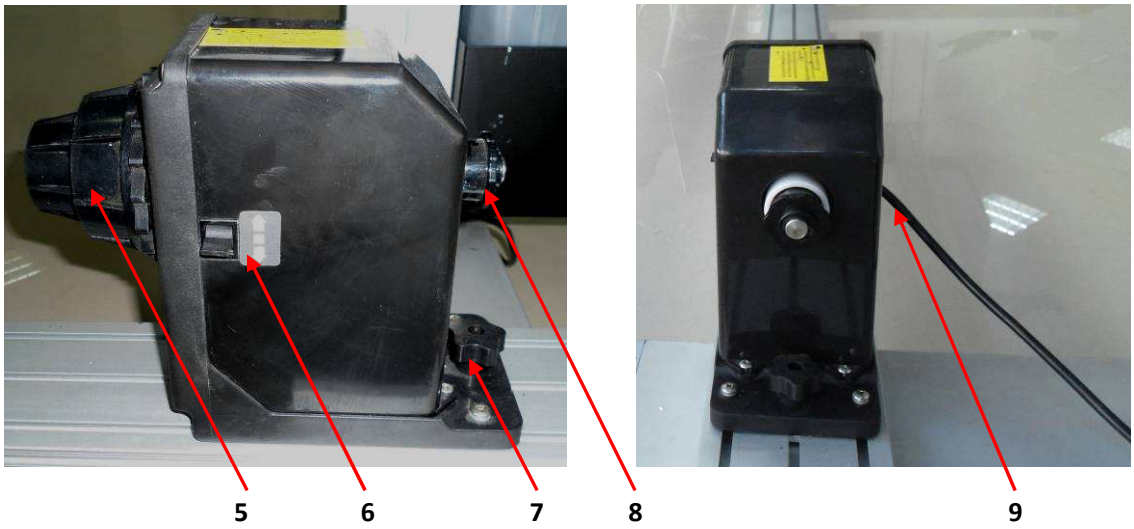
Chapter 7 Media Take-up System (Optional)

7.1 Instruction

The take up device is a separate operation system, it has independent DC power supply.

7.2 Structure



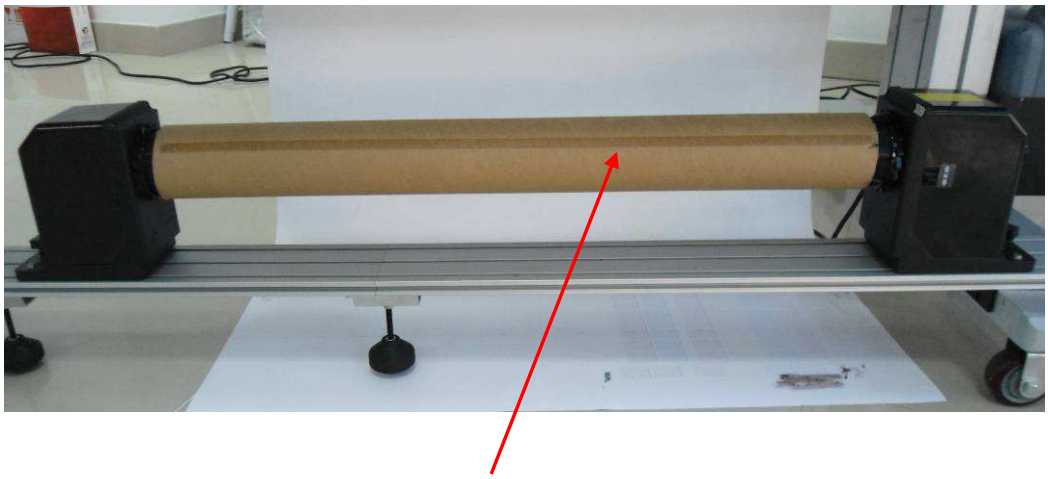


Item	Description	Function
1	Passive Media Holder	This is a holder for fix the media.
2	Supporting Slot Guide	The holder can be moved along with the slot to fit the length of media.
3	Support Foot	This is used to support the guide.
4	Active Media Holder	This is a holder driven by DC motor for media rewinding.
5	Media Core Adaptor	This is the adaptor to fit the paper core.
6	Direction Switch	This is used to change the winding direction.
7	Fixing Screw	This is used to fix media holder.

8	Resistance Adjust	This is used to adjust the resistance of media holder. Heavy media requires more resistance and vice versa.
9	Power Cord	This is the power card for taking up system.

7.3 Operation Description

7.3.1 Install Paper Core



Install paper core, stick a double side adhesive in horizontal on the surface of the paper core.

7.3.2 Pull the media to paper core equably, slight press the media and stick it on paper core.

7.3.3 Switch on take up system, select winding direction.

Chapter 8 Maintenance

8.1 Daily Maintenance

Daily maintenance is very important for normal work of the printer.

8.1.1 Daily work

- Check waste ink tank, clean up if necessary;
- Check the ink level in ink cartridge, keep the level between ½ to 2⁄3 of of the capacity.
- Check the waste ink groove on the clean station. clean it if necessary;
- Check the wetness of head capper , clean or replace it if necessary;
- Check wiper and clean it if necessary;
- Clean feeding and pinch rollers with PM acetate.
- Do normal clean for the printer everyday.

8.1.2 Weekly work

- Clean the dust on the surface of fans on dry board. Assemble them after ensure clearness of the leafages.
- Check pump route if there is any loose.
- Check power socket and USB connector.
- Check the tension of X/Y driving belt. Do adjustment if necessary.
- Check the tension of carriage driving belt. Do adjustment if necessary.
- Check the status of encoding strip. Clean the dust on the strip if necessary.
- Check press roller and pinch roll. Clean the gap to keep the roll turning freely.

- Check media guide slot. Clean the slot to keep guide moving freely.

8.1.3 Monthly work

- Clean the floating switch;
- Clean the filters of C、M、Y and K;
- Observe the three-way valve of the positive pressure cleaning if has ink in it. If necessary, use flush solution to cleaning;
- Check the tension of straps;
- Clean dust in the power tank.

8.1.4 Six Months Work

- Replace ink filters;
- Blow the dust out of electrical chassis with compress air;
- Clean or replace ink pad on clean station.
- Clean the ink supply routes;
- Change wiper;
- Clean or replace vacuum pump.;
- Check whole circuit if there is any loosen or broken. Repair it in time if necessary;
- Check if there is any tear on the tube and wire in the towline set and replace it if necessary.

8.2 Linear Rail Maintenance

Add lubricating oil to the rail daily. The details as below:

- Turn off the power supply;
- Add a few lubricating oil on a cotton fabric and move the print head to original position.
- Brush the rail with the cotton fabric to create an average oil layer on the Rail;
- Power the printer and move the print head unit left and right repeatedly;
- Erase the oil smear on the both ends of the rail. Erase the oil drops on the rail again before printer running。

8.3 Print-head Maintenance

Always keep the print head surface wet with flush solution. If the printer is left unused, the print head must be move to clean station and covered by capper ,to keep it wet and in a good condition..

If there would be two or more days not use the printer, please do follow procedure to keeping the nozzle of the head be tried out.

- Apply flush solution on the pad of head capper. Initial head capping procedure to park the head on clean station.
- If more than four days not using, disconnect the damper from the head, flush the head by using flush solution. Initial capping procedure.

8.3.3 Unload print head

Do as follows when you are going to unload print head:

- Suck the ink out from print head and clean it with flush solution by using injector；
- Power off the printer and plug out power line from socket；
- Check static on the machine with a multi-meter and release the static if necessary；
- Loosen Right screws, and take out the right screw；
- Take out the print head and put it on an unwoven fabric soaked with flush solution

⚠CAUTION **Please wear the anti-static wrist strap when connect the print heads onto the print heads driven board, otherwise will result in a damage to the print heads or print heads driven board.**

8.4 Ink Supply Maintenance

- Clean out the ink in all tubes and cartridges
- Remove 8 cartridges from the printer, clean the remains out from the cartridge..
- Check the rubber seal on the cartridge. Replace a new one if necessary.
- Re-install the sensor and cap.